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## THE ORIGINAL TOM THUMB

From a miniature booklet by Solomon King, New York City, about 1830.

TOM THUMB was born in the reign of King Arthur. He was thus called because he never grew any taller than his father's thumb, which was not a very big thumb either.

One day his mother made a batter pudding, and that he might see how she mixed it, he climbed up to the edge of the bowl, but his foot slipping, he fell over head and ears into the batter.


The hot water made Tom struggle; and his mother seeing the pudding jump about, gave it to a poor tinker who was passing by, who put it in his pocket and walked on.

As soon as Tom could get the batter out of his mouth he began to hawl lustily, which scared the tinker so much that he threw the pudding, Tom and all, over the fence, and ran away.

Onc windy day his mother tied him fast with a needleful of thread to a thistle, that he might not be blown from her. The cow took up the thistle and Tom at a mouthful; but he screamed, and the cow has glad to drop hm.


King Arthur sent for Tom to court, where he went riding on a fine mouse. The king gave him a purse and a silver three-penny piece, which, after much labour. he got on his back, and rode home.

Not long after this, the Queen of the Fairies came to see him, in a chariot drawn by flying mice, and made Tom her coachman, who drove her through the air to her palace. She then made a fair wind to blow, and placing Tom on a beautiful painted butterfly, sent them away.

On arriving at the drawbridge. Tom was opposed by a large spider. Tom drawing his sword fought the whole day; but alas, the spider finally overcame and killed him: a drawing of the desperate battle you will see below.


Tom Thumb lies dead, King Arthur's knight,
Who died by a spider's cruel bite.
Wipe, wipe your eyes, and shake your head,
And cry, Alas? Sir Yom is dead!

## Twentieth Century

## is $2 / 3$ Gone

- JANUARY 1, 1968, is a Special Day. On it, we enter the first full rear of the last third of this century.

The Twentieth Century was $2 / 3$ complete at midnight, September 1-2, 1967.

As the New Year comes in, the Old Century will be, mathematically speaking, 66.9979 . . . percent gone.

Actually, there was some misunderstanding about the precise moment at which that $2 / 3$ point was reached. Since $2 / 3$ of 100 is 66.669 ... it would seem that the $2 / 3$ point in this century should come during the year 1966 - not 1987. And so it would, if our calendar was normal. But it isn't. For reasons best known to antiquarians (perhaps because the concept of zero was not known at the time of Christ?), there is uo Year Zero in the Christian caleudar. The year 1 BC is followed by 1 AD. Therefore the first century AD begins with the rear 1, not zero, and so, according to the traditionalists, must all of its successors, including our own. Historically and calendarically and officially and every way except logically, the Twentieth Century began a year late.

Astronomers, however, recognize the year Zero. They call the caleudar year 1 BC. 0 . Thus 2 BC for them is $-1,3 \mathrm{BC}$ is -2 , and so forth. Thus for them the $2 / 3$ poiut of this century came in 1966 .

Coufusing?
Maybe.
But consider the plight we would be in if the calendar-keeper's (almanack-trackers?) took iuto strict account the findings of the Bible scholars. They believe that Christ was born in 4 BC, or earlier, so that the Christian era is at least 4 years older than the calendars indicate.

There are even some hypermeticulous persons who point out that if we assume that Jesus was born on Cliristmas day, December 25,1 BC (of course, neither the day nor the month is known), then the first Annus Domini, or Year of the Lord, was, according to the calendar, only 6 days long.

Well. Be all that as it may, and regardiess of precisely when the preat moment came, it did come. We have recently completed successfully - two-thirds of this most rewarding, dangerous, extraordiuary century.

Next: the $3 / 4$-mark ... in 1976.
Or should it be 1975? Or 1972? ? Or.

John B. White

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## THE

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## BAROMETERS

Or certain Rules to judge of the WEATHER; grounded on fifty years' experience and observations, by an ancient English Shepherd, 1812.

If the sun rises red and fiery, it certainly betokens more or less wind or rain, this observation agrees with the old English rule: If red the sun begins his race, Be sure that rain will fall apace.

If eloudy at smnrising, and it so decreases, it is a certain of fair weather; agreeable to this an observation of Pliny's, in his Natural History, which says-If at sun-rising the clouds are driven away, and retire as it were to the west, it denotes fair weather.

There is an old proverb to this purpose, which also deserves our notice: A red evening, and a grey morning set the pilgrim a walking.

Little round clouds like a dapple grep. and at the same time a uorth wind blows, denotes fair weather for a few days.

If the sun be surrounded with an iris, or circle of white elouds, and they equally fly away, tis a sign of fair weather.

And this old English proverb is often right: In the decay of the moon, A cloudy morning bodes a fair afternoon.

If the weather be hazy, and the wind falls awar, and small elouds inerease, depend on mueli rain, and that soon.

If large clouds brcak away, decrease in bulk, and aseend higher in the atmosphere, it is a certain sign of fair pleasant weather. The large black elouds in summer evenings. which seemingly threaten much rain over night are frequently resolved into dews, and produce a very misty morning, and a fine warm day.

When mists rise in low ground, and soon vanish, nothing is a surer sign of fair weather: when they are heary, rise slowly, and keep visible on the hill tops, they are soon condensed, they fall down in rain, which, however, scldom lasts long.

A mist in the morning, before sua-rising, and at or about the full of the moon, betides fair weather; but if mists appear in the new moon, you may depcud on more or less in rain in the old; and when they arise in the old there is generally rain in the new.

If the wind shifts from the north to the south iu a few days without rain, and turns north again with rain, returus to the south in one or two days, and so ou for two or three keeps slifting, it will afterwards fix south or west two montlis or more.

When the north wind first clears the air which geuerally happens once a week, you may depend on a fair day or two.

In Summer, or Autumn, when the wind has heen in the south two or three days, and the weather very hot, and the clouds rise one above awother, with white tons, uhe butilemente of a fower, ant joined together, and black on the hills, depend on thunder and rain very speedily.

## What did this woman predict abouf the future?

The crisis between Arabs and Jews that took place nine months later. . . the delay in our space program that occurred five months later . . . Walter Reuther cut off from old supporters which happened six months later . . . the attempt, failure and result of Vietnam peace talk that began four months later! These predictions were made by this amazing woman in one publication and at the time, unforeseen by others!
Published predictions, by Miss Carter, concerning events of national and world importance, have attracted notice, nationwide. She is an internationally known lecturer, author and authority on planetary influences. Her astrological features have appeared in metropolitan newspapers and magazines in the United States, Canada and England.
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Miss Carter's Forecast with Special Notations contains guidance that, in her opinion, can open the door to a bright, new future; outstanding indications of changes, home life, associations with others, financial outlook and opportunities are covered.
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## THE <br> ( OLD )

## FARMER'S ALMANACK,

## CALCULATED ON A NEW AND IMPROVED PLAN FOR THE YEAR OF OUR LORD



> Being Leap YEAR, and (until July 4) 192nd year of American Independence

Fitted for Boston, and the New England States, with Special Corrections and Calculations to Angwer for all the United States.
$\rightarrow$ Again This Year: Individual Sections for the North Central, Midwest, West, and Southern States.
Containing, besides the large number of Astronomical Calculations and the Farmer's Calendar for every month in the year, a variety of
NEW, USEFUL, AND ENTERTAINING MATTER.

"Even such is time, that takes in trust Our youth, our joys, our all we have, And pars us but with age and dust; Who in the dark and silent grave. When we have wandered all our ways, Shuts up the story of our days. But from this earth, this grave, this dust, My God shall raise me up, I trust!"
(Written by William Shakespeare April 22, 1616 - the night before his death.)
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## WEATHER FORECASTS

For Entire U.S.A. - see page 19, and the verses in italics on pages 25-47. For Boston and Vicinity - see page 90.
For No. New England - see page 91.
For So. New England - see page 92.
For Eastern States, except New England - see page 94.
For Midwestern States - see page 97. For Great Plains - see page 103.
For Pacific Northwest - see page 104. For Southern States - see page 109.
For Anywhere by Moon - see page 113.
Readcrs will please note that the weather forecasts throughout this almanac may be read directly without correction for all of the regions indicated above.

## FOR TIMES OF SUNRISE, SUNSET, MOONRISE, MOONSET, AND PLANETS - SEE PAGE 88 AND-

For Boston and Vicinity - see pages 24-46, 48.
For New England, exeept Boston-sce page 91.
For Lastern States, except New England - see page 93.
For Midwestern States - see page 96.
For Western and Mountain States - see page 102.
For Southern States - see page 108.
KEY LETTER CORRECTIONS - The key letters which appear on pages 24-46, 48 , for cach day arc for correcting the above times in arcas outside of Boston.

## TIDES

See pages 24-46 for times of morning and evening high tides. See pages 25-47 for heights of same. To corrcet these times and heights to your locality, see page 112.

TWILIGHT, SUNDIALS, ETC.
For these and detailed instructions pertaining to the above, and other matter pertaining to points outside of Boston - see pages 88-89. Here, for the first time in any almanae, begins a series of eight sections pertaining respectively to Boston, No. New England, So. New England, the East outside of New England, the Midwest, Great Plains, Pacific NW, and the South.

## To 狠atrons

This is the 176th consecutive annual edition of THE OLD FARMER'S ALMANAC(K). It is for the year 1968, or Atomic Year 24. It is the oldest continually published periodical in America. Founded in 1792, while George Washington was l'resident-the same year in which the cornerstone of the Whitc House was laid-its name and format, with one exception, have remained unchanged. The exception is that, in 1832, in order to distimgush it from imitators, the word "Old" was added to its title.

There have been, and still are, imitators of this almanac in name, appearance, and content. Imitation is. of course. the sincerest form of flattery. In this, we are happy to remark that the paid sale of this Almanac continues to be the largest of any almanac in the world.

Sometimes we are asked what an amanac is and why. in this age of newspapers, radio. and television, this Almanac is either needed or wanted. As is often the case, to ask a question is to answer it. However, in the long and careful editing (which began in November. 1066 ) of this edition, we have been inspired by 1) a belief that the continuity of this Almanac as an American and family tradition is not only important but desired by its readers, and 2) a realization that, although a larger format, bigger type, etc. might make it easier to read, the maintaining of the original 1793 format is now a must. Any major change in this tormat, more readable or not, would seem to us (and most of our readers), almost trcason. 3) Finally, and most important of all -

This Almanac, in presenting as it does each year some 18 months months in advance (we go to press in May) for the next year the exact times of sunset, sunrise, moonset, moonrise, coursing of the planets, eclipses, tides, and probable veather, gives MEANING to the Creation. As we become more aware of this GUIDING FORCE and learn through our inadequate senses how it is each tree, each bird, each animal, each individual is an INTEGRAL PART of this FORCE or SPIRIT, we realize its universal power for good. Properly understood, by us, this Universal Being can and does oppose and eradicate disease, war, crime, evilin fact, everything and anything which interferes with the meaningful, continuing, harmonious progression of life and purpose.

For your reservoirs of wit and wisdom, in addition to the foregoing qualities of "continuity. tradition, and purpose." is included (as it has been in each edition since 1793) a "variety of new, useful and entertaining matter."

This year, Loring B. Andrews, our astronomer, has been called upon to aid old Abe Weatherwise in his forecasts for each of the eight individual climatic areas and the overall continental summary. Andrews, through his studies of what he calls the pulse of the Sun (and outer space) is giving old Abe the scientific assist he needs to ascertain when storms will come in, and where .. and eventually, as his studies progress, how much precipitation and wind they will hold. The work of combining old Abe's secret formula, and Andrews' scientific findings for eight different areas, and the U. S. as a whole, has been not only arduous but fantastic. It remains to be seen how valuable it may be. (Old Abe insists it won't be half as good as it would have been if we had let him go it alone.)

Benjamin M. Rice has again prepared the Farmer's Calendars; Rob Trowbridge, as assistant publisher, has made valuable contributions - especially to the solution of production, advertising, transportation, and advertising problems. Judson Hale has helped with the puzzles and layouts. Other contributors are by-lined.

We would hope that this edition will merit the approbation of the many friends - old and new - of this almanac. and that it may find accentance by professionals in the various fields of communication as a worthwhile effort to maintain a fine American tradition. Man, however, in these things can only propose. God is the true disposer. In this it is by our works and not our words we would be judged. These we hope will sustain us in the humble, though proud, station we have so long held, in the name of

June 1, 1967

## Your ob'd servant,

## Kast Winter＇s Meatyer

（Nov．，Dec．， 1966 －Jan．，Feb．，Mar．，Apr．196\％）
The overall forecast at Blue Hill，Milton，Massachnsetts（which Abe Weatherwise inses for Boston verification purposes）was，for the Winter of Nov．1966－Apr． 1967 almost perfect：Temperature was forecast as $35^{\circ}$ ；the actual was $34.2^{\circ}$ ．Precipitation was forecast at $27^{\prime \prime}$ ：actual was $26.77^{\prime \prime}$ ．Snow was forecast as $89^{\prime \prime}$ ；actuaI was $109.6^{\prime \prime}$ ．

However，Abe＇s batting average as to the actual days，weeks，and months these storms would come in was very poor indeed．In fact， $30 \%$ is giving him better than he deserves．However，he became a villain（or a hero，depending upon how ron look at it）by forecasting correctly the Great Blizzard of 1967 at Clicago，Detroit，and parts of Indiana．In the East，this storm was rain．

Highlights of the Winter，nationwide，follow herewith：

## November 1966

1－2，heavy rain（Atlanta to New England），snow（Ind．to N．I．）． cold（So．）：6，heavy rain（So．New Eng．）；8－9，heavy rain（Chi．）： $9-$ 1：．stormy evervwhere（exc．Da－ kutas to Tex．） $14-20$ ，clear all over－ （exc．Pac．N．W．）： $21-27$ ，rain（N゙W Coast）；29－30，snow（Mich．，N．J．， Pa．，So．New Eng．）．

## December 1966

$1-3$ ，rain and snow（Midwest to New ling．）；4，rain（Maine）；$\overline{5}-7$ ． rain aud snow（Ill．，Vt．）；6．ramed all 50 states；11．rairı＂（Pitts．to Vt．）：12－15，snow 5－12＂（Atlanta to No．New Eng．）；19－20，show （Git．Lakes）； $22-2 \overline{5}$ ，major snow－ storins，rain，ice（Atlanta to New Hng．）；28－29，snow（Nebr．to Chi． to New Eng．）．

## January 1967

1．rain（Atlanta to N゙ew Eng．）； 3－4，rain（Ore．），snow（Cascades）， stormy（Chi．to New Eng．）；7－S， blizzard（Midwest），rain（At－ lanta）：9－11，snow（Tex．）：14，rain （Atlanta）；16，blizzard（Midwest）； 18 ，below zero（ 18 states）： 19 ， rain，snow，90－mph winds（Ore．， Mont．，WYo．）；26－27，ISLIZZARI） OF 1967（Ill．，Mich．．Ind．），heavy rain（Olio to New Eng．，Ore．）．

## February 1967

1－2，stormy over most of U．S．， snow（Chi．，N．Y．，New ling．）；$\overline{5}-7$ ， rain（Calit．），snow（Chi．11－day total $3^{\prime}$ ，Pitts．，lıd．，New Eng．）． tornado（Ala．）；9－1シ，Nnow（N．C．
to New Eng．）．rain（La．）；15－16， high winds（Ore．to New Eng．）， snow（Dakotas－Wis．，Mo．，Kans．）； 17．rain（Ga．）；20，rain（Ga．）， windy，storms（New Eng．）： $2 \pi$ ， snow（Chi．to New Eng．）；உ－ 2 S ， stormy over most of U．S．A．

## March 1967

$4-5$ ，rain（Pa．）；6．hail（Ind．）． heavy rain（Ga．）；6－7，rain and snow－ $14^{\prime \prime}$（Pa．）：7－8，tornadoes （S゙O．）；14－16．snow， $1^{\prime \prime}-18^{\prime \prime}$（Pa．， N．Y．，N．J．，New Eng．）：20，rain and show（Chi．to Pitts．）rain （corn belt to Atlantic）： $22-23,{ }^{\prime \prime}$－ 2n＂snow（Md．，Pa．to New Eng．）； ？3－24．dust storms（Gt．Plains）； 31，rain（Chi．）．

## April 196\％

1－2．heayy rain（Okla．to New Fng．）：6－\％snow（Gt．Lakes to New Eng．）．rail（Ohio，Pa．）：， 10．rain（New Eng．）；12－14，stormy （Rockies to Ohio），tormadoes （K̄ans．，Mo．to Miss．），rain（Ill．）： 14－15，rain and snow（N゙ew Eng．）， bad squall（Ohio）；1\％．blizzard （MInn．），rain（Gt．Lakes to Gulf）； 20－21．show（Mont．to New Eng．）， bad tornadoes（Mo．Ill．，Ind．， Mich，－ 55 k．， 1100 inj．）：o－o3． stormy（Pa．to New Eng．）：24－25， rain（Tex．to New Eng．，Ga．）： $27-28$ ，near hurricane（So．New Ling．）stormy（Gt．Lakes），bliz－ zard（Mont．，Dakotas），tornadoes （Tex．to Minn．－ 100 inj．）；29－30， rain（III．）．

At Iurlington，Vt．（the station Abe Wcatherwise uses for his Northern New Eingland forecast verification），there was so．$\overline{0}^{\prime \prime}$ of snow； at l＇ortland，Maine， $108^{\prime \prime}-$ agrainst Abc＇s overall forecast of $182^{\prime \prime}$ ．

At Providence．R．I．（for Soutlern New England）snowfall was 6：．1＂ingainst Abe＇s predicted 32＂．（In some blaces in Conn．the snow－ fall was close to $80^{\prime \prime}$ ．）
At Pittsburgh（for the Eastern States Outside of New England），
$57.5^{\prime \prime}$ of snow fell－Abe had forceast $71^{\prime \prime}$ ．
At Chicago（for the Midwest），where Abe expected $89^{\prime \prime}$ of snow， some $68.4^{\prime \prime}$ fell，to make a new season record．Ahe also called for tormadoes at this station in April－but hetween the 5th to Sth，and $24 t h$ to $39 t h$ ．The bad tornado cance on the afternoon of the 21 st．

At Fortland，Ore，（for the Nortliwest），where Abe looked for $21^{\prime \prime}$ of snow，none fell．However，Abe＇s total prccipitation for Portland＇s winter（27．5＂）was being approximated at the end of March with
$24.98^{\prime \prime}$ ，April still to come． $24.98^{\prime \prime}$ ，April still to come．

Continued on page 120

## Weather Jonecast 1967:8

The verses in italic type (same as this) which run vertically down the middle of the Calendar Pages ( $25-47$ ) cover the country as a whole for the calendar year of 1968 . These are for the days indicated by the beginning capitalized word and ending with a period. In addition, there follows hercwith: 1) a prose summary of the Winter in general across the conntry from November, 1967 throngh April, 1968: and 2) a summary for the calendar sear 1968 (January-December). These general forecasts are then broken down into eight regional weather forecasts, both for the Winter (November, 1967-April, 1968) and the calendar year (January-December, 1968), See pages 90-109.

As all of these forecasts are based, for verification purposes, at established U.S.W.B. Stations, the temperature will be about $5^{\circ}$ higher for each 100 miles south of the U.S.W.B. Station location given in the above-mentioned summaries and $5^{\circ}$ lower for each 100 miles nortlı. For each 1,000 feet of altitude, reduce temperatures approximately $3^{\circ}$. . read, with the colder temperatures, "snow" for "rain."

## THE WINTER IN NORTHERN U.S.A.

(NOV. 1967-APR. 1968)

After a fine November, December offers the same for the period of the 15th to 25 th. The second and last weeks will be rough from Pittsburgh West, whereas the East will be stormy in the first week and over Christmas. January will be abnormally cold, with two bad storms ( $5-10$ ) and during the last week. February warms up but brings trouble with heavy snowstorms between the 6th and 12th and during the last week. March brings heavy rains in the East and South between (5-11), (18-23), and (27-31). The first one will be the most disagreeable but tornado warnings will be up south of Chicago for the whole Midwest area during the last week. April brings an early fine spring this year. There are three major storms (5-8), (12-18), and ( $25-30$ ), but only the middle one seems worth worrying about.

## THE YEAR IN MOST OF THE U.S.A.

## (JAN.-DEC. 1968)

Here is a year which, in most of the U.S.A., runs close to normal in temperatures, and just slightly below normal in precipitation. The last week in January may hold a memorable storm of snow from the Great Plains to New England. February will be a stormy month the second week in the Great Plains as well as the East, the third week from Atlanta to Pittsburgh, the last week from Chicago on East. Tornadoes hit the South March 1 to 14, while New England has a near-blizzard ( $5-11$ ). Both the Great Plains and Pacific Northwest have bad storms between March 18 and 23. In April, there are tornadoes in the South (5-8), violent storm in the East (12-18), and again all the way from Chicago to New England during the last week. July is a fine month this year - but August is eool with bad storms everywhere (except the South) between the 21st and 27 th. This kind of weather repeats itself in September (19-24), but along the East Coast may bring in a hurricane, A dangerous storm is marked for November 21 to 30 in most places - and from Chicago to New England the last week in December, 1968.

## ECLIPSES FOR THE YEAR 1968

There are four eclipses, two of the Sun and two of the Moon.
I. A Partial Eclipse of the Sun, March 28, 1968. Except for the southernnost tip of South America and the northern fringes of Antarctica this eclipse will be visible only in the South Pacific Ocean.
II. A Total Eclipse of the Moon, April 12-13, 1968. The entry of the Moon into the Earth's umbral shadow will be risible in North America except for the northwestern part of Alaska, as well as in Europe, most of Africa, the Atlantic Ocean, South America, the southeastern part of the Pacific Ocean, and Antarctica. The departure of the Moon from the shadow will also be visible throughout North America and all but the southeastern part of the Atlantic Ocean, from along the northwest coast of Africa, South America, the Pacific Ocean except for its western part, New Zealand, and Antarctica. The Moon moves into the umbral shadow at 10.11 P.M.E.S.T. April 12th and is first fully within the shadow at 11.23 P.M. It begins to move out of the phase of total eclipse at 12.13 A.M. April 13 th and is clear of this shadow at 1.25 A.M.E.S.T.
III. A Total Eclipse of the Sun, September 22, 1968. The path from which this eclipse may be seen as total begins near the 80th parallel of north latitude at longitude $108^{\circ} \mathrm{E}$. Thence it sweeps an arc through Siberia and Kazakh within the Soviet Union to an ending just inside the border of Sinkiang Province in China. As a partial eclipse it may be seen over a wide area which extends from Labrador and Baffinland, where the partial eclipse will be seen near sunrise, to the heart of Siberia and China, where it will be seen near sunset. Between these limits the area of visibility of the partial eclipse covers Greenland, Iceland, all of Europe, except southwestern Spain and Portuyal, all of Asia west of the Siberian and Chinese heartlands, and the northeastern part of Africa.
IV. A Total Eclipse of the Moon, October 6, 1968. The Moon will have set along most of the eastern seaboard of the United States by the time this eclipse beconcs total, but its partial phase prior to totality will be visible there, as it will be throughout the United States and all of North America, beginning at 4.55 A.M.E.S.T. The Moon's entry into the umbral shadow of the earth at this time will also be visible from the western half of South America, the Pacific Ocean, most of Australia and New Zealand, the northeastern part of Asia. and the Arctic regions. The total phase will begin at 6.10 A.A.E.S.T. and will be generally visible within the United States to the west of the Eastern Standard Time belt. The Moon will be entirely outside the umbral shadow at \$.30 A.M.E.S.T., naking the end of the eclipse visible only from the northwestern part of North America, the Pacific Ocean except its southeastern part, from Australia, New Zealand, most of the Indian Ocean, Asia except the western part, and the Arctic regions.

During this week of the Harvest Moon, its path across the sky from rising to setting essentially duplicatcs that which the sun follows across the sky during the months of spring - months of ever-lengthening daylight culminating with the longest days of the year as sumnicr enters the scene. So, too, the Hunter's Moon. Thus it is that these particular moons provide successive brightly moonlit nights at the time of hayrides and frost on the pumplins.

The Harvest Moon (full October 6) and the ensuing Hunter's Moon (the full noon of Novenber 4) light the night-time hours until each has waned to last quarter. Neither sets over those weeks until well into the next day's daylight hours. gracing the western sky while the sun graces the eastern. A study of the times of the risings and settings of the sun and moon for those weeks on pages 42 and 44 illustrates this.

## EARTH IN PERIHELION AND APHELION, 1968

The Earth will be in Perihelion on January 4th, distant from the Sun $91,265,000$ miles. The Earth will be in Aphelion on July ind, distant from the Sun $94,369,000$
miles.

## FULL MOON DAYS

|  | 1968 | 1969 | 1970 | 1971 | 1972 |  | 1968 | 1969 | 1970 | 1971 | 1972 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jan. | 15 | 3 | 22 | 11 | 30 | July. | 9 | 28 | 18 | 8 | 26 |
| Feb. | 14 | 2 | 21 | 10 | 28 | Aug. | 8 | 27 | 16 | 6 | 24 |
| Mar. | 14 | 4 | 22 | 11 | 29 | Sept. | 6 | 25 | 15 | 4 | 22 |
| Apr. | 12 | 2 | 21 | 10 | 28 | Oct. | 6 | 25 | 14 | 4 | 22 |
| May | 12 | $2-31$ | 20 | 10 | 27 | Nov. | 4 | 23 | 13 | 2 | 20 |
| June | 10 | 29 | 19 | 8 | 26 | Dec. | 4 | 23 | 12 | $2-31$ | 20 |
|  |  |  |  |  |  |  |  |  |  |  |  |

## I㙁olidays, 1968

$\dagger$ Are recommended as "with pay" holidays-regardless of regular periods-for all commercial employees. (*) Quite generally observed. (**) State holidays only. (***) Observed some places though probably not holidays.

All dates are also included in abbreviated form on the Calendar r'ages 25-47.

Jan. 1 (* $\dagger$ ) New Year's (all) Mon.
Jan. 8 (**) Battle New Orleans (La.)
Jan. 19 (**) Robert E. Lee's Birtheday (South)
Jan. 19 (**) Arbor Day (Ela.)
Jau. 26 (**) MacArthur (Ark.)
Jan. 30 (**) F. F.R.'s Day (Ky $^{(*)}$
Feb. 12 (*) Lincoln's Birthday (13 States) Mon.
Feb. $14{ }^{(* *)}$ Admission Day (Ariz).
Feb. $14^{(* * *)}$ Valentine's Day
Feb. 15 (***) Susan B. Anthony
Feb. 22 (* $\dagger$ ) George Washington's Birthday, Thurs.
Feb. 27 (**) Mardi Gras. (Ala., Fla., La.)
Mar. 1 (**) State Day (Nebr.)
Mar. 2 (**) Texas Ind. Day
Mar. 7 (**) Burbank Day (Cal.)
Mar. 15 (**) Jacksou Day (Tenn.)
Mar. $17{ }^{(* *)}$ St. Patrick's or Evacuation Day (Boston)
Mar. 25 (**) Maryland Day
Mar. 26 (**) Kuhio Day (Haw.)
Mar. 30 (**) Seward's Day (Alas.)
Apr. 2 ${ }^{(* *)}$ Pascua Day (Fla.)
Apr. 12 (**) Good Friday (Ark., Cal., Conn., Del., Fla., 111., Ind., La., Md., Minn., N. J., N. D., Penn. \& Tenn.)
Apr. 12 (**) Halifax Day (N. C.) Apr. 13 (**) Jefferson Day (Ala., Mo., Nebr.. Okla., Va.)
Apr. $14\left({ }^{(* *)}\right.$ Pan Aim. (Fla.)
Apr. 15 (**) Easter Mon. (N.C.)
Apr. 19 (**) Patriots' Day (Me., Mass.) Fri.
Apr. $21{ }_{\left({ }^{* *}\right)}$ San Jacinto (Tex.)
Apr. $22\left({ }^{(* *)}\right.$ Okla. Day. Arbor Day (Nebr.)
Apr. $22{ }^{(* *)}$ Fast Day (N. H.), Mon.
Apr. $26\left({ }^{* *}\right)$ Memorial Day (Fla., Ga., Miss.)
Apr. 26 (*) Nat'l Arbor Day (Utah)
May 4 (**) R. I., Indep. Day
May 10 (**) Mem. Day (N. \& S. C.)

May $12\left({ }^{(* * *}\right)$ Motlier's Day
May 15 (**) Armed Forces Day
May 20 (**) Mecklenburg (N. C.)
May 30 (*it) Decoration or Memorial Day (exc. 5 So. States) Thurs.
June 3 (**) Jefferson Davis Day (Ala., Fla., Ga., Ky., La., Miss., s. C., Tenn.. Tex.)

June 11 (**) Kamehameha (Haw.)
June 14 (**) Flag Day (Pa.)
June 15 (**) Pioneer Day (Idaho)
June 16 (***) Father's Day
June 17 (**) Bunker Hill (Suffolk Co., Mass.), Mon.
June 18 (***) Father's Day
June 20 (**) West Virginia Day
July 4 (*†) $^{*}$ Independence (aii), Thurs.
July 13 (**) Forrest's Day (Tenn.)
July 24 (**) Pioneer Day (Utah) Aug. 1 (**) Colorado Day
Aug. 12 (**) Victory (R. I.)
Aug. $1 \pm$ (**) Y. J. Day (Ark.)
Aug. 16 (**) Bennington, Vt. Bat.
Aug. 30 (**) Huey Long (La.)
Sept. 2 (*+) Labor Day (all), Mon.
Sept. 9 (**) Admission Day (Cal.)
Sept. 12 ${ }^{(* *)}$ Defender's (Md.)
Sept. 16 (**) Cherokee (Okla.)
Sept. 17 (***) Citizenship Day
Sept. 27 (***) Am. Indian Day
Oct. 10 (**) Okla. Hist. Day
Oct. 11 (**) Pulaski Day (Nebr.)
Oct. 12 (*†) Columbus (All States exc. 10). Sat.
Oct. 18 (**) Alaska Day
Oct. 24 (***) United Nations Day
Oct. 31 (**) Nevada Day
Nov. 1 (**) All Saints' Day (La.)
Nov. $4{ }^{(* *)}$ Will Rogers (Okla.)
Nov. 11 (*广) Veterans' (All States exc. 4), Mou.
Nov. $16{ }^{(* * *)}$ Sadie Hawkins Day
Nov. 23 (**) Repudiation (Md.)
Nov. 28 (*+) Thanksgiving Day
Dec. 10 (**) Wyoming Day
Dec. $151^{(* * *)}$ Bill of Rights Day
Dec. 21 (***) Forefathers' Day
Dec. 25 (* $\dagger$ ) Cliristmas Day (all) Wed.

## LONG HOLIDAY WEEKENDS

The year 1968 seems to hold better racation weekends than any we have seen for some time. The "for sure" three-day ones are as follows: Christmas ('67) Mon.; New Year's ('6S) Mou.; Lincoln's Mon.; Patriots', Fri. (Boston) ; Fast, Mon. (N. H.) ; Bunker Hill, Mon. (Mass.) ; Victory, Mon. (R. I.) ; Labor Day, Mon.; and Veterans', Mon. Washington's, Decoration, Independence, and Thanksgiving are all on Thursdays - and Christmas. 1968, is on a Wednesday.


# Introouction 

# STANDARD TIME IS USED THROUGHOUT THIS ALMANAC Add 1 hr April 28, (deduct it Oct. 27) for Daylight Saving Time 

 Epact . . . . . . . 30
Dominical Letter*. G-F $\mid$ Year of Julian Period 6681
*The Dominical Letter is used instead of the usual "S" for "Sunday" by almanac makers for determining at a glance (a) the year of the almarac, (b) on what day of the week any day of the month will fall.

## Movable Feasts and Fasts for 1968.

| SeptuagesimaSun. Feb. 11 | Good Friday | Apr. 12 | Whitsunday | June 2 |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Shrove Sunday | Feb. 25 | Easter Sunday | Apr. 14 | Trinity Sunday | June 9 |
| Ash Wednesday | Feb. 28 | Low Sunday | Apr. 21 | Corpus Christi | June 13 |
| 1st Sun. in Lent Mar. | Rogation Sun. | May 19 | 1st Sundlay in |  |  |
| Palin Sunday | Apr. 7 | Ascension Day | May 23 | Advent | Dec. 1 |


| THE SEASONS OF 1968 |  |  |
| :---: | :---: | :---: |
| Winter (1967) | December 22 | 8.17 A.m. (Sun enters Capricornus) |
| Spring (1968) |  | 8.22 A.m. (Sun enters Aries) |
| Summer | June 21 | 3.13 A.M. (Sun enters Cancer) |
| Fall | September 22 | 6.26 p.m. (Sun enters Libra) |
| Winter | December 21 | 2.00 P.M. (Sun enters Capricornus) |

Names and Characters of the Principal Planets.
9 Venus.
$\oplus$ The Earth.
8 Mars.
4 Jupiter.
世 Neptune.

Names and Characters of the Aspects.
$\delta$ Conjunction, or in the same degree. $\square$ Quadrature, 90 degrees.
8 Opposition, or 180 degrees.

Iragon's Head, or Ascending Node. ¿ Dragon's Tail, or Descending Node.

## Calendar Page Explanations and Signs

On the right hand pages you will find every now and again the symbols given above conjoined in groups of three to give you what is happening in the heavens. See Glossary, Page 119. Example: d 44 on Page 25, opposite Jan. 18 means Jupiter (2) and the moon (6) are on that day in conjunction ( $\delta$ ), or nearest to each other.

Weather Forecasts
For the U.S.A. in general, see Page 19 and italics on pages $25-47$, next to the Farmer's Calendars. For specific weather forecasts in eight different climatic areas, see pages $88,90,91,92,94,97,103,104$, and 109.

## Planting Tables

See Page 52. Usual planting dates as well as those most favored by the moon are given for most parts of the U.S.A. Favorable signs are also included. See Pages $24-16$ for the days on which these occur. Also see Page 56.

## Astrology Signs and Meanings

See Pages 56-59 for birth date superstitions as well as those pertaining to brush cutting, weaning, planting, marriage, etc.

## Planets

See Pages 48-49. Which planet is shining so brightly for you? These pages will help you to know. Also, the configurations these planets are making with each other are given in the symbols on Pages 25-47. Astrologers as well as students of the varying strength of radio and television signals find these configurations useful.

## Tides

See Pages 24-46 for the times of morning and evening high tides, Pages 25-47 for the heights of these tides. Page 112 gives the corrections needed for your locality.

## Regional Sun, Moon, etc., Times

Sice Part III, page 88 , for correcting the times (given for Boston only on pages 24 to 46 ) for your area. There are separate correction tables for eight different areas - in one of which you will find yours: see pages $24-46$ for Boston; 91 for New England (exc. Boston); 93 for Eastern States (exc. New England); 96 for Midwest; 102 for West and Mountain States; 103 for South.

Questions gladly answered free of charge if accompanied by self-addressed, stamped envelope mailed to: THE OLD FARMER'S ALA1ANAC, DUBLIN, N. H., 03444.

| 1968] |  |  | January, First Month. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. | $0 \quad 1$ | Days. | 0 1 | Days. | 0 , | Days. |  | Days. |  |
|  | 1 | 23 s .03 | 7 | 2226 | 13 | 2133 | 19 | 2026 | 25 | 1904 |
|  | 2 | $22 \quad 58$ | 8 | 2218 | 14 | $21 \quad 23$ | 20 | 2013 | 26 | 1849 |
|  | 3 | $22 \quad 52$ | 9 | 2210 | 15 | $21 \quad 12$ | 21 | 2000 | 27 | 1834 |
|  | 4 | 2246 | 10 | 2201 | 16 | 2101 | 22 | 1947 | 28 | 1819 |
|  | 5 | $22 \quad 40$ | 11 | 2152 | 17 | $20 \quad 50$ | 23 | 1933 | 29 | 1803 |
|  | 6 | $22 \quad 33$ | 12 | 2143 | 18 | $20 \quad 38$ | 24 | 1919 | 30 | 1747 |

D First Quarter, 7 th day, 9 h .23 m ., morning, E.
O Full Moon, 15 th day, 11 h .12 m ., morning, W.
© Last Quarter, 22nd day, 2 h .38 m ., evening, W.

- New Moon, 29th day, 11 h 30 m ., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

|  |  |  | $\left.\begin{aligned} & \text { Rige } \\ & \text { R. } \mathrm{m} . \\ & \mathrm{h} . \end{aligned} \right\rvert\,$ |  |  |  |  |  | $\begin{aligned} & \text { Iorn } \\ & { }_{h}^{E} \\ & \hline \end{aligned}$ |  | $\left\|\begin{array}{c} \substack{\text { Resees } \\ \text { h. }} \\ \text { m. } \end{array}\right\|$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $1{ }^{\text {M }}$. 7 | 713 | - 1422 | C | 909 | 12 |  | $1{ }^{3}$ |  | $8_{4}^{4} 55$ | O | - $5_{\text {x }}^{\text {P }} 57$ |  |  | 2 |
| 2 |  | Tu. 7 | 713 | o 423 |  | 910 | 12 |  | $0 \frac{1}{2}$ | $0 \frac{1}{2}$ | 932 | N | - 711 |  |  | 3 |
| 3 | $3{ }^{3}$ | W. | 713 | o, 424 |  | 911 | 11 |  | $1 \frac{1}{4}$ | $1 \frac{1}{2}$ | 1001 | M | 1823 |  | F | 4 |
| 4 | 44 | Th. 7 | 713 | o, 425 |  | 912 | 11 |  | 2 | $2 \frac{1}{4}$ | 1024 |  | L 930 |  | G | 5 |
| 5 |  | Fr. 7 | 713 | o 426 |  | 913 | 11 |  | 3 | 3 | 1045 |  | J 1035 | H | H | 6 |
| 6 | 66 | 6 Sa. 7 | 713 | N427 | D | 914 | 10 |  | $3 \frac{3}{4}$ | 4 | 1103 |  | ${ }_{1} 11_{\text {m }}^{\text {P }} 37$ |  |  | 7 |
|  | 77 | 7 C | 713 | $\cdots 428$ |  | 915 | 10 |  | $4 \frac{1}{2}$ | 5 | 1122 | , |  |  |  | 8 |
| 8 | 8 | M. | 713 | N 429 |  | 916 | 9 |  | $5 \frac{1}{2}$ | $5 \frac{3}{4}$ | $11{ }^{\text {A }} 40$ |  | 12 $2_{13}^{\text {a }} 39$ |  |  | 9 |
|  |  | 9 Tu .7 | 713 | N 430 |  | 917 | 9 |  | $6 \frac{3}{4}$ | 6 | $122^{\text {P }}$ P 02 |  | 142 |  |  | 10 |
| 0 | 10 | 0 W. | 712 | N 431 |  | 919 | 8 |  | 7 | $7 \frac{1}{2}$ | 1227 | D | 245 |  | v | 11 |
| II | 111 | Th. | 712 | ~ 432 |  | 920 | 8 |  | 8 | $S_{2}^{1}$ | 1257 |  | 349 |  | G' | 12 |
| 12 | 12 | ${ }_{2} \mathrm{Fr}$ | 712 | N 433 |  | 921 | 8 |  | $8 \frac{3}{4}$ | $9 \frac{1}{4}$ | 135 |  | 454 |  |  | 13 |
| I3 | 13 | Sa. | 712 | N 434 | D | 23 | 7 |  | $9^{\frac{1}{2}} 10$ | 10 | 223 | A | 554 | Q | Q CNC | 14 |
| 14 | 414 | C | 711 | N 435 |  | 924 | 7 |  | $0 \frac{1}{4} 1$ | $10 \frac{3}{4}$ | 320 | A | 650 |  |  | 16 |
| 5 | 15 | M. | 711 | N 437 |  | 926 | 7 | 11 | 11 | 112 | 426 |  | 736 |  |  |  |
| 16 | 16 | Tu | 10 | N 438 |  | 927 | 6 |  | $1{ }^{\frac{1}{2}}$ |  | 537 |  | - 816 |  |  | 17 |
| 7 | 17 | W. | 710 | N439 |  | 929 | 6 |  | 0 | $0^{\frac{1}{4}}$ | 650 |  | 848 | N |  | 18 |
| 18 | 18 | Th. | 709 | N 440 |  | 931 | 5 |  | $0 \frac{3}{4}$ | 1 | 803 | $\mathrm{c}$ | 914 |  |  |  |
| 19 | 19 | Fr. | 709 | N 441 |  | 933 | 5 |  | $1 \frac{1}{2}$ | $1{ }_{4}^{3}$ | 915 | H | 937 |  |  | 20 |
| 20 | 20 | S | 708 | N 443 |  | 934 | 5 |  | $2 \frac{1}{4}$ | $2 \frac{1}{2}$ | 1028 |  | 959 |  |  |  |
| 21 | 21 | C | 708 | N 444 |  | 936 | 5 |  | 3 | $3 \frac{1}{2}$ | ${ }_{1} 11_{\text {m }}{ }^{\text {P }} 42$ | k | 1021 |  |  | 22 |
| 22 | 22 | M. | 707 | N 445 |  | 938 | 4 |  | 4 | $4 \frac{1}{2}$ |  |  | -10 44 |  | F | 23 |
| 23 | 323 | Tu. | 700 | N 446 |  | 940 | 4 |  | $4 \frac{3}{4}$ | $5 \frac{1}{2}$ | $122_{\text {x15 }}^{\text {A }} 58$ |  | 1110 |  |  | 24 |
| 24 | 424 | W. | 705 | N 447 |  | 942 | 4 |  | $5 \frac{3}{4}$ | $6 \frac{1}{2}$ | 216 |  | 111443 |  |  | 5 |
| 25 | 525 | Th. | 705 | N449 |  | 944 | 4 |  | $6 \frac{3}{4}$ | $7 \frac{1}{2}$ | 333 |  | 12 $2_{\text {M }}{ }^{\text {P }} 25$ |  | B | 6 |
| 26 | 26 | Fr. | 704 | M 450 |  | 946 | 3 |  | 8 | $8 \frac{1}{2}$ | 447 |  | 117 | $\mathbf{B}$ | B | 27 |
| 27 | 727 | 0 | 703 | M 451 |  | 948 | 3 |  | 9 | $9 \frac{1}{2}$ | 552 | P | 221 |  |  | 28 |
| 28 | 28 | C | 702 | m 453 |  | 951 | 3 |  | 93 | $10 \frac{1}{2}$ | 646 |  | 333 |  | cap | 29 |
| 29 | 29 | M. | 701 | M 454 |  | 953 | 3 |  | $0{ }^{\frac{3}{4}}$ | $11 \frac{1}{2}$ | 727 |  | 448 |  |  | 0 |
| 30 | 30 | Tu. | 700 | M 455 |  | 955 | 2 | 11 | $1 \frac{1}{2}$ |  | 800 |  | 601 |  |  | 1 |
| 31 | 31 | W. | 659 | M14 4 |  | E. 957 | 2 | 0 | $0 \frac{1}{4}$ | $0 \frac{1}{2}$ | $8_{\text {m }}^{\text {¢ }}$ 2 6 |  | $7_{\text {M }}^{\text {P }}$ |  |  | 2 |



As the wild air stirs and sways
The tree-swung cradle of a chlld.
So the breath of these rude days.
Rocks the year; be calm and muld
Tremblling hours; she will arise
With new love in her eyes.
P. B. Shelley

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$\dot{a}$
0

Dates, Feasts, Fasts,
Aspects, Tide Heights
Circumcision - Tides 11.0
Weather

Crunch
 W. 4 Th. 5 Fr .
6 Sa .
braw.
 This Day Parailel Tides $\{9.0$ with Nov. 30 $\mathbb{C}_{\text {fins }}^{\text {runs }}$ (14th-Fav, Conc.
on anCiigh Female Chiid)
 Conversion - USS Malne at
or St. Paul
Havana 98
 $\mathbb{T}^{\text {rides }}$ Bilzzard
\{10.3
Salem,
it's one
big
F.D.R.
slalom.

Our town is growing fast, and to many of us there is no communication between its past and present.

But today as the bells toll for old Joh's passing-old John whose life was spent in the research and recording of the town's history, as faithfully as if he had been its founder-today as the bell tolls. it is as if we understood (as John would have us, I think) that not alone for him the bell tolls, but for all the slow and patient years through which our town has grown.

It is as if the present slept. Time rolls up the curtain. It is a hundred years ago. Froin the river the tumble of logs, the whine of the saw, the chatter of bobbins at Jones's mill. Along Main Street the clatter of hoofs, the clump of country boots on the sidewalk, and the patter, patter of a pair of dainty feminine lutton tops-size five-hurrying past the guffaws at Smith's corner, wherc two flights up Lawyer Brown and Squire Harris have just concluded a mutually profitable piece of business.

The curtain falls, but before it does, some of us will understand (as Johu did) that in itself the passing of years is nothing. To the grass that grows each year on Chapel Hill, it is only the seasons that pass: to the water that hurries away under the town bridge, it is forever the samc strean.

## 1968] <br> FEbRUARY, Second Month.

ASTRONOMICAL CALCULATIONS.

|  | Days | 0 | , | Da |  | Days. | 0 |  |  | Days. |  |  | Days. | 0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 17s. | 13 | 7 | 1527 | 13 |  |  |  | 19 |  |  | 25 |  |  |
| E | 2 | 16 | 56 | 8 | 1508 | 14 |  | 10 |  | 20 |  | 105 | 26 |  | 53 |
| ¢ | 3 | 16 | 39 | 9 | 1449 | 15 | 12 |  |  | 21 |  |  | 27 |  | 30 |
| $\stackrel{\square}{2}$ | 4 | 16 | 21 | 10 | 1429 | 16 | 12 | 29 |  | 22 |  |  | 28 |  |  |
| - | 5 | 16 | 03 | 11 | 1410 | 17 | 12 |  |  | 23 |  |  | 29 |  | 45 |
| $\bigcirc$ | 6 | 15 | 45 | 12 | 1350 | 18 | 11 | 47 |  | 24 |  |  |  |  |  |

D First Quarter, 6th day, 7 h .21 m ., morning, E.
O Full Moon, 14th day, $1 \mathrm{~h} .43 \mathrm{~m} .$, morning, W.
© Last Quarter, 20th day, 10 h. 28 m ., evening, E.

- New Moon, 28th day, 1 h. 56 m., morning, E.

FOR POINTS oUtside boston see key letter corrections - page 16



 \begin{tabular}{llllllllll}
34 \& 3 \& Sa. \& 656 \& m \& 5 \& 00 \& E \& 10 \& 04 <br>
\hline

 

35 \& 4 \& $\mathbf{C}$ \& 655 \& m \& 5 \& 02 \& E \& 10 \& 07

 

36 \& 5 \& M. \& 654 \& M \& 5 \& 03 \& E \& 10 <br>
\hline

 09 

37 \& 6 \& Tu. 653 \& м 504 \& 04 \& 10 \& 12

 

38 \& 7 \& W. 652 \& 4 \& 5 \& 06 \& e \& 1014
\end{tabular}


 4 I 10 Sa. 648 L 510 F 1022 42 11 C 647 I. 511 F 1024 43 12 M. $645 \times 1.512$ F 1027
 4514 W. 643 I 515 F 1032
 4716 Fr. 640 L 517 F 1037 48 17 Sa. 639 I. 5 19 F F 1040 49 18 C $\begin{array}{llllllllllll}6 & 37 & 1 & 5 & 20 & \text { F } & 1043\end{array}$
 5120 Tu. 634 I 523 F 1048 5221 W .633 k 524 a 1051 53.22 Th. 631 k 525 G 1054 54 23 Fr. 630 к 526 g 1056 5524 Sa .628 к 528 g 1059 56 25 C 627 к 529 G 1102 5726 M. 625 к 530 G 1106 58.27 Tu. 624 r 531 G 1108 5928 W. 622 r. 533 g 1110 $60 \mid 29$ Th. $621 \mathrm{k}|534| \mathrm{G} \mid 1113$

## FEBRUARY hath 29 days.



For though on hoary twigs no buds peep out And even the hardy brambles cease to sprout, Beneath dread winter's level sheets of snow The sweet nutritious turnip deigns to grow.

Robert Bloomfield

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| MaRCH, Third Month. |  |  |  |  |  |  |  |  |  |  |
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| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. |  | Days. | $0 \quad 1$ | Days. | 0 | Days. |  | Days. | 0 |
| 열 | 1 | 7 s .22 | 7 | 504 | 13 | 242 | 19 | 0s. 20 | 25 | 202 |
| . | 2 | $6 \quad 59$ | 8 | $4 \quad 40$ | 14 | 219 | 20 | 0n. 03 | 26 | 225 |
| \% | 3 | $6 \quad 36$ | 9 | $4 \quad 17$ | 15 | 155 | 21 | 0 | 27 | 249 |
| $\stackrel{\square}{\square}$ | 4 | $6 \quad 13$ | 10 | 353 | 16 | 131 | 22 | $0 \quad 51$ | 28 | 312 |
| 0 | 5 | 5 5 | 11 | $3 \quad 30$ | 17 | 108 | 23 | $1 \begin{array}{ll}1 & 14\end{array}$ | 29 | 336 |
| 0 | 6 | 5 | 12 | 306 | 18 | 044 | 24 | $\begin{array}{ll}1 & 38\end{array}$ | 30 | 359 |

D First Quarter, 7 th day, $4 \mathrm{~h} .21 \mathrm{~m} .$, morning, W.
O Full Moon, 14th day, 1 h. 53 m ., evening, E.
© Last Quarter, 21st day, $6 \mathrm{~h} .08 \mathrm{~m} .$, morning, W.

- New Moon, 28th day, 5 h. 49 m., evening, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16




 65 5 Tu. 612 J $5 \begin{array}{lllllllll}5 & 40 & \text { н } & 11 & 27 & 4\end{array}$
66 6 W. 611 J 541 н 113004




 73 13 W. 5595 J 549 H 1150 7414 Th. 557 J 550 H 1153


 7717 F | 78 | 18 | M. | 5 | 50 | I | 5 | 55 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 1205

 80.20 W. $547 |$| 5 | 5 | 57 | I | 12 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- |

 | 82 | 22 | Fr. 543 | I | 6 | 00 | r | 12 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 9 83 23 Sa. $542 \begin{array}{lllllllll}6 & 01 & 12 & 19 & 9 \\ 8\end{array}$

 85 25 M. 538 1 603 1 122510 8626 Tu. 536 il 604 J 122810 8727 W. 535 нl 605 J 123110 8828 Th. 533 н 606 J 123311 89 29 Fr. 531 н 6 0S Ј 1236 11




Slayer of the winter, thou art here again; o Welcome thou that bring'st summer nigh! The bitter wind makes not thy victory vain, Nor will we mock thee for thy faint blue sky.

William Morris

| - | $B$ | Dates, Feasts, Fasts, Weather Aspects, Tide Heights |
| :---: | :---: | :---: |
|  | Fr. |  |
| 2 | S | $\left[\begin{array}{l}1 \text { st World } \\ \text { Prayer } \\ \text { Heb. }\end{array}\right]$ Tex. Tides $\left\{\begin{array}{l}9.5 \\ 9.4\end{array}\right.$ is |
| 3 |  |  |
|  | M | $\mathbb{C} \delta^{\prime} \downarrow$ Cyciops 1918 Tides $\left\{\begin{array}{l}9.2 \\ 8.5 \\ \text { Mastery }\end{array}\right.$ |
| 5 | Tu. | $\mathbb{C}_{\text {Apo }}^{\text {in }}$. Maston 1770 Tides $\left\{_{8.0}^{8.9}\right.$ is too; |
| 6 | W | Everybody's girl Ember is nobody's girl Days 6,8,9 the plow |
| 7 | Th | 6\%¢ Luther Burbank Tldes $\left\{\begin{array}{c}8.4 \\ 7.3\end{array}\right.$ just |
| 8 |  | $\mathbb{C}_{\text {Righ }}^{\text {Runs }}$ Yowr's Lowest P.M. ${ }^{\text {Y }}$ Lide (W. Feb. ${ }^{\text {a }}$ ) filled |
| 9 | S | $\begin{aligned} & \text { Maple Tree } \\ & \text { Sap Running } \end{aligned} \cdot \text { Meteor }$ |
|  | F | 2nd S. 5 (L. Dan'i Boone capt. dive |
|  | M | ${ }_{1888} \mathrm{Blizzard}$ began $8 \mathrm{~L} \bigcirc$ Tides ${ }_{88.2}^{9.1}$ anew. |
|  | 'I | Salnt Gregory d |
|  | W | $\left[\begin{array}{l}14 \text { th Give Blood from } \\ \text { Right Arm Only }\end{array}\right]\left\{\begin{array}{r}10.1 \\ 9.6\end{array}\right.$ divine, |
|  | T | Purim 6 ¢ $\mathbb{C}$ The Full Woon hon |
|  | F | Ides begin Eq. Hol. Eq. $\quad\left\{\begin{array}{l}10.7 \\ \text { clear, }\end{array}\right.$ |
| 16 | S | Day Equais Night Peri. $\left\{\begin{array}{l}10.7 \\ 10.7\end{array}\right.$ sunny. |
| 1 | F |  |
| 18 | M | $6 \Psi \mathbb{T}$ New Bedford $\begin{aligned} & \text { Inc. } 1847\end{aligned} \quad\left\{\begin{array}{l}11.1 \\ 10.0\end{array}\right.$ they |
| 19 | Tu. | Swallows Return to San Capistrano. Calif. Tides $\left\{\begin{array}{c}10.9 \\ 9.4 \\ \text { say }\end{array}\right.$ |
| 20 | W | Spring beglns ${ }_{8.22 \text { A.M. }}$ - Sun. ent. don't |
| 21 | T |  |
| 22 | F | Earilest poss. Oysters Hol. May. Easter date. Spawn Okla. May |
| 23 | Sa |  |
|  | $F$ | 4tf) S. \#L. Longfeliow $\left\{\begin{array}{l}9.4 \\ 8.4 \\ \text { died } \\ \text { b }\end{array}\right.$ |
| 25 | V |  |
| 2 | 'I'u. | б¢¢ - ¢ $¢$ ¢ Hol. troubles. |
| 2 | W | The more the years. Tides $\left\{_{9.4}^{9.7}\right.$ Storms |
| 2 | Th |  |
| 2 | Fr. | Finct ror maradm fintes $\begin{array}{ll}9.5 & \text { of poun } \\ \text { Allies } 1918\end{array}$ |
| 3 | Sa. | ర才C Hollday Alaska tides $\left\{\begin{array}{l}9.7 \\ 9.8\end{array} \mathrm{man's}\right.$ |
|  | $F$ | 渽assion 5. 6 ¢\% 99.7 manure. |

## Farmer's Calendar.

Herl and his pair of oxen are labonring throngh the deep wet snow of late Mareh, the woodsled with the great sap tank bumping and sliding clumsily aronnd and between and against the rongh maples -a tedious, heart-thmmping business. On every trunk of the steep sugarbush hang the wooden buckets. Down in the hollow the sap honse is wreathed in steam.

Uncle brushes the rotten snow off the flat rock that makes a natural seat under a young maple. Herb has caryed his initials and date on itHG 1911-and I put mine underneath his. Uncle watches quietly, smoking his pipe and taking the morning, before going down to the sap house again.

There was nothing speeial about this morning. one of many that wonld follow in quiet suecession until the sugaring was done. That I was not to see the grove again for fifty years, I did not know. But now, fifty vears have passed-almost to the day, the hour-since that morning-and I am here alone. There are no buckets, no sap house, no bosiness to be finished. But here is Uncle's stone, sung against the fullgrown maple, and the barkthickened initials that I alone, perhaps. can read.

Fifty years ago I found no wondel in that lovely spring. morning, but $I$ do in this. Most of our lives arc spent with memories of things to which we may never returndoors forever locked. But I have returned, and time has unlocked this door for me.

ASTRONOMICAK CALCULATIONS.


D First Quarter, 5th day, 10 h .28 m ., evening, W.
O Full Moon, 12th day, 11 h. 52 m ., evening, W.
© Last Quarter, 19th day, 2 h .35 m. , evening, W.

- New Moon, 27th day, 10 h. 22 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16


|  |
| :---: |





 | 94 | 3 | W. | 5 | 23 | H | 6 | 13 | 5 | 12 | 51 | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 954 Th. 521 н 614 J 125313

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| $1 \frac{3}{4}$ |  |
| $2 \frac{1}{2}$ |  |
| 3 |  |
|  |  |

96 5 Fr. 519 H 615 J 125613





IOI 10 W. 5.11 G $621 |$| 6 | 13 | 10 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- |

IO2 11 Th. 509 af 622 k 131315



IO6 15 M. 503 G 627 к 132416 0 13
10716 Tu. 501 a 625 к 132716
IO8 17 W. 4459 G 629 к 133016
IO9 18 Th. 458 G 630 к 133217
i Io 19 Fr. 456 G| 631 l 133517
II I 20 Sa. 455 F 632 I 133717
II2 21 F 453 F 633 I 1340176

I I 423 Tu. 450 F 636 I 1345 1S $S_{4}^{1}$
II 5.24 W. 449 F 637 I 1348 18 $9 \frac{1}{4}$ II 6







| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\dot{\bar{y}}$ | Days. | $0 \quad 1$ | Days. | 0 | Days. | 1 | Days. | $0 \quad 1$ | Days. | 0 |
| $\stackrel{\square}{2}$ | 1 | 15N. 14 | 7 |  | 13 |  | 19 |  | 25 |  |
|  | 2 | $15 \quad 32$ | 8 | 1714 | 14 | 1845 | 20 | 2006 | 26 | 2114 |
| ${ }^{\circ}$ | 3 | $15 \quad 50$ | 9 | 1730 | 15 | 1900 | 21 | 2018 | 27 | 2124 |
| $\stackrel{\square}{\square}$ | 4 | $\begin{array}{ll}16 & 07\end{array}$ | 10 | 1746 | 16 | 1914 | 22 |  | 28 | 2133 |
|  | 5 | $16 \quad 24$ | 11 | 1801 | 17 | 1927 | 23 | 2041 | 29 | 2142 |
|  | 6 | $\begin{array}{ll}16 & 41\end{array}$ | 12 | 1816 | 18 | 1941 | 24 | 2052 | 30 | 21 |

D First Quarter, 5 th day, 12 h. 55 m ., evening, E. O Full Moon, 12th day, 8 hr .05 m ., morning, W.
© Last Quarter, 19th day, 12 h. 45 m., morning, E.

- New Moon, 27 th day, 2 h .30 m ., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

| d |  | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} C_{1} \\ \text { s.tes. } \end{gathered}\right.$ |  | $\begin{aligned} & \text { Length } \\ & \text { Days } \\ & \text { n. my. } \end{aligned}$ |  | $\left\lvert\, \begin{gathered} \text { Full Sea. } \\ \text { Boston. } \\ \text { Mora\|Ey. } \end{gathered}\right.$ | $\underset{\substack{\text { Rises } \\ \text { h. } \\ \text { dic }}}{\text { d }}$ | 这 | $\underset{\text { Sets }}{ }$ |  | $D$ | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

 123 2 Th. 437 E| 646 ar 140819 124 3 Fr. 436 E 647 M 141119 125 4 S. . 435 E 648 m 141319
 127 6 M. 432 е 650 M 1418 19 $128 \quad 7$ Tu. 431 E 651 M 1420 19
129 8 S W. 430 E 652 м 142319

 132 11 Sa. 426 E 655 M 14 2919 $\begin{array}{llllllllllll}133 & 12 & \text { F } & 425 & \text { E } & 657 & \text { m } & 1431 & 19\end{array}$
 I35 14 Tu. 423 E 659 m 1436 13615 W. 422 E 700 N 143819
 138 17 Fr. 420 D $702 \times 144219$

 | 1 | 4 | 19 | F | 4 | 18 | D | 7 | 04 | N | 1446 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


 14322 W. 416 D $707 \times 145119$
 145.24 Fr. 414 D 708 N $1454 \mid 19$

 | 147 | 26 | $\mathbf{F}$ | 4 | 13 | D | 7 | 10 | N | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |







| MAY hath 31 days. |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Get up, sweet slug-a-bed, and see The dew bespangling herb and tree; Each flower has wept, and bowed toward the East Above an hour since, yet you not dressed. Robert Herrick |  |  |  |
| $\begin{aligned} & \dot{\Sigma} \\ & \dot{\Omega} \end{aligned}$ | $\dot{B}$ | Dates, Feasts, Fasts, Aspects, Tide Heights | Farmer' Calendar. |
|  |  |  |  |
|  |  |  | man, the garden wall is, per- |
|  |  |  | haps, the most rewarding, the most secure, a haven from the |
|  |  |  | wind and the world, a gatherer and reflector of the sun's |
|  |  |  | warmth, while beneath and in |
|  |  |  | its shade, the custodian and storer of moisturc. |
|  |  |  | A wall delights the eye, and to its lovers invites experi- |
|  |  |  | ment and invention, as Jeffer- |
|  |  |  | son's serpentine wall at Charlottesville. Clematis, ivies, |
|  |  | Still | morning glories, magnolias, |
| $\begin{aligned} & 10 \\ & 11 \end{aligned}$ | 1 Sa |  | and cherries-all vines and flowers and trees are the com- |
|  | F | Itfa. 淄 Mather's - The Flower | panions of garden walls. <br> To the farmer a wall is a |
| $13$ | 3 M | T1ie Three (12-14) $\quad\left\{\begin{array}{l}10.2 \\ \text { Chill Sains } \\ \text { Lightning }\end{array}\right.$ | very different matter, built when he cleared his pasture |
| $14$ |  |  | to enclose and protect it. But |
| 15 | 5 | $\mathbb{C}_{\text {lowes }}^{\text {Rides }}$ ( $\Psi \odot \bigcirc$ Tides $\left\{\begin{array}{l}11.6 \\ 9.7\end{array}\right.$ young | his wall has a will of its own. <br> It is the catcher of every |
| 16 | T |  | windblown seed, and grows the thickest, quickest, and |
| 17 | F |  | the thickest, quickest, and most polyglot brush on the |
| 18 | Sa. | Armed - Don't marry till fever's the | farm. It grows everything- |
| 19 | F | 36.gg. \%. Dark Day 1790 complaint; | to the farmer. To him brush is simply a pasture robber. |
| 20 | M. | Mind (20-22) H. Hol Car. days should | This brush becomes a refuge, |
| 21 | 1 |  | a home, a natural feeding shelter for birds and animals |
| 22 | W | Nothing is certain Except the unexpected $\left\{\begin{array}{l}8.7 \\ 9.2\end{array}\right.$ but ain't. | -the woodchuck, the rabbit, the skunk, the night-prowling |
| 23 | 3 |  |  |
| 24 | Fr. | From now on O.K. .t. give blossoms | has not its grapevines, the |
| 25 | Sa. |  | farmer's dividends; and a stately elm, sometimes several |
| 26 | F |  | of them, close by, or, curi-- |
| 27 | M. |  | ously, a, gharled old "wall |
| 28 | Tu | Dlonne quints born 1934 near Callender, Ontarlo $\{\overline{8.4}$ forlorn | think, finds a fellowship, shares a meditation with |
| 29 | W. |  | these maverick, unneighbored |
| 30 | Th | Mem, Day ${ }_{5}^{\text {Hola }}$ states. exc. $\{9.6$ Mem. Day | trees, as courageous and arone iu the wild high pasture as |
| 31 | 1 Fr | Rained 22.24" Seco Creek ${ }^{\text {Rasln, Texas }} 1935$ (U.S. rec.) storm? | hi |

## ASTRONOMICAL CALCULATIONS.



D First Quarter, 3rd day, 11 h .47 m ., evening, W.
O Full Moon, 10 th day, 8 h. 05 m., morning, W.
© Last Quarter, 17 th day, 1 h .14 m ., evening, W.

- New Moon, 25th day, 5 h. 25 m., evening, W. FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16


 I 55 3 3 M. 408 c 717 o 150818




 160 - 8 Sa. 407 c 720 o 151317 | 161 | 9 | $\mathbf{F}$ | 4 | 06 | c | 20 | 0 | 15 | 14 | 17 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



 | I 64 | 12 | W. | 4 | 06 | c | 7 | 22 | 0 | 15 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 16 |  |  |  |  |  |  |  |  |  |




 | I 68 | 16 | F | 4 | 06 | c | 7 | 24 | o | 15 | 18 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | I69 17 M. 4060 c 724 of 1518 15






 | I 75 | 23 | F | 407 | c | 7 | 25 | 0 | 15 | 18 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



 | I7 | 26 | W. 4 | 4 | 08 | c | 7 | 26 | o | 15 | 18 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 13



 \begin{tabular}{ll|llllllll}
I 8 I \& 29 \& Sa .4 \& 4 \& 09 \& c \& 7 \& 26 \& o \& 15 <br>
15 \& 16 \& 12

 $\begin{array}{llllllllllllll}3 & 3 \frac{3}{4} & 9 & 39 & \text { E } & - & - \text { LeO } & 7\end{array}$ 

$3 \frac{3}{4}$ \& $4 \frac{1}{2}$ \& 10 \& 49 \& F \& $122_{\mathrm{M}}^{\mathrm{A}} 08$ \& L VIR \& 8
\end{tabular} $4 \frac{3}{4} 5_{\frac{1}{4}}^{\frac{1}{4}} 111_{\mathrm{M}}^{4} 59 \mathrm{H} \quad 1230 \mathrm{~K}$ VIR 9

 \begin{tabular}{c|cccc|c|ccc|c|ccc|}
$6 \frac{1}{2}$ \& 7 \& 2 \& 26 \& K \& 1 \& 14 \& $H$ \& LIB \& 11 <br>
7 \& $\frac{1}{2}$ \& 8 \& 3 \& 44 \& L \& 1 \& 36 \& F \& SCO \& 12 <br>
$8 \frac{1}{2}$ \& 9 \& 5 \& 07 \& N \& 2 \& 04 \& E \& SCO \& 13

 

$9 \frac{1}{2}$ \& $9 \frac{3}{4}$ \& 6 \& 30 \& O \& 2 \& 38 \& D \& SGR \& 14 <br>
\hline
\end{tabular}

$$
\begin{array}{l|l|ll|ll|ll}
10 \frac{1}{2} & 10_{4}^{3} & 7 & 50 & \mathrm{P} & 3 & 22 & \mathrm{~B}
\end{array}-
$$

| $11 \frac{1}{3}$ | $11 \frac{1}{2}$ | 8 | 59 | P | 4 | 19 | A | SGR | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |




And what is so rare as a day in June?
Then, if ever, come perfect days;
Then Heaven tries the earth if it be in tune And over it softly her warm ear lays.

James Russell Louvell

| $\dot{\theta}$ | $\left\|\begin{array}{c} \text { Dates, Feasts, Fasts, } \\ \text { Aspects, Tide Heights } \end{array}\right\| \text { Weather }$ | Farmer's Calendar. |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
| 3 M |  |  |
| 4 Tu . |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 7 Fr |  | $\frac{1}{\text { i }}$ a world of benches and |
| 8 S | He that ts born to be hanged'll never drown $\left\{\begin{array}{c}9.8 \\ 10.6\end{array}\right.$ Richard <br>  | whom I have never been in- |
|  | $\mathfrak{C r i x . ~ ฐ . ~} \delta \Psi \mathbb{C} \cdot \mathbb{C}_{\text {Peri. }}^{\text {l }}$, violets | troduced -anonymous as the benches themselves. |
| 0 | The Foll Marry now $\begin{aligned} & 9.7 \\ & \text { Hot Moon } \\ & \text { tili Dec. } 1\end{aligned}$ Year's highest P.M. High Tides $\mathbb{C}_{\text {high }}^{\text {runs }}$ | Who sits upon a park bench |
| 11 Tu . |  | is obligated to no man. He |
| 12 W. |  | or dungeons, plot venges, harangue his multi- |
| 13 | Chrous Charsi Hard Cormence. Just when |  |
| F |  | feed the seoturres and pi- geons, move with sun and |
| 15 Sa . | All covet. all hose Ida. $\left\{\begin{array}{l}10.8 \\ 9.2\end{array}\right.$ along comes | shade, or not, as he has a |
|  | 2nDa 抻. Father's $\left\{\begin{array}{c}10.0 \\ \text { Day } \\ \text { Da }\end{array}\right.$ | Whiere else in all the world |
| 17 M . |  | is there a seat, a chair, a throne that is not a thing of |
| 18 T |  | purpose or oblitation? |
| 19 W |  | s |
| 20 Th. |  | nor my own chair which sears |
|  |  | desk. To my park bench I owe |
| 22 S |  |  |
|  |  | independence. |
| 24 |  | end of park benches. I should |
| 25 |  | old or wear out. Why should |
|  |  | they? Of alt the sturdy and |
|  |  | are the least |
|  |  | have not been shaken, |
|  |  |  |
|  |  |  |
|  |  | wear of time and that gentlest of frictions, the luman pos- |
|  |  |  |


| 1968] |  | JULY, Seventh Month. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. | 1 | Days. | 0 | Days. | 01 | Days. | 0 | Days. | 01 |
|  | 1 | 23N. 05 | 7 | $22 \quad 32$ | 13 | 2145 | 19 | 2045 | 25 | 1933 |
|  | 2 | 2300 | 8 | $22 \quad 25$ | 14 | 2136 | 20 | $20 \quad 34$ | 26 | 1919 |
|  | 3 | $22 \quad 55$ | 9 | 2218 | 15 | 2127 | 21 | $20 \quad 22$ | 27 | 1905 |
|  | 4 | $22 \quad 50$ | 10 | $22 \quad 10$ | 16 | 2117 | 22 | 2010 | 28 | 1852 |
|  | 5 | 2244 | 11 | 2202 | 17 | 2107 | 23 | 1958 | 29 | $18 \quad 38$ |
|  | 6 | 22 38 | 12 | 2154 | 18 | 2056 | 24 | 1946 | 30 | 1823 |

D First Quarter, 3rd day, 7 h. 42 m., morning, E.
O Full Moon, 9th day, $10 \mathrm{~h} .18 \mathrm{~m} .$, evening, E.
© Last Quarter, 17 th day, 4 h. 12 m., morning, E.

- New Moon, 25th day, 6 h. 50 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16



$\begin{array}{llllllllllll}\text { I8 } & 5 & 3 & \text { W. } & 4 & 11 & \text { c } & 7 & 25 & 0 & 15 & 14 \\ \text { I }\end{array}$

| I 86 | 4 | Th. 4 | 12 | c | 7 | 25 | 0 | 15 | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |










| I 95 | 13 Sa. | 4 | 18 | D | 721 | N | 15 | 03 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |





20018 Th. 423 D 7 78 18 N 1455 10

 | 202 | 20 | Sa. | 4 | 24 | D | 7 | 16 | N | 14 | 52 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 203 21 F 204 22 M. 426 D 714 N 1448 20523 Tu. 427 D $713 \times 1446$ 20624 W .42 L D 713 N 1444 20725 Th. $429 \mathrm{D} \mid 12 \mathrm{~N} 1443$

 20927 Sa. 431 е 710 м 1439 210 28 F 432 e 709 c m 1437 2II 29 M. 433 е 708 м 1434
 21331 W .435 El 705 M 1430


I remember, I remember
How my childhood fleeted by, -
The mirth of its December
And the warmth of its July.
W. M. Praed

| $\begin{array}{l\|l} \dot{\Delta} \\ \dot{\theta} & \dot{\theta} \end{array}$ | Dates, Feasts, Fasts, Aspects, Tide Heights $\quad$ Weather | Farmer's Calendar. |
| :---: | :---: | :---: |
| 1 M . | Dominion $\begin{aligned} & \text { Unlucky } \\ & \text { Day } \\ & \text { everywhere }\end{aligned}$ | A farm boy spent far less |
| 2 Tu. |  | time with other boys than |
| W | Butter gets mad now $\{9.2$ winter's | with farmetan of the farm |
|  | And in December's snow $\{9.6$ winter's | were wild things, too-the oc- |
|  | Independende Daj Tides ${ }_{9.9}$ forgot. | casional deer, the rabbit, the |
| F | Salvation Army Fd. by Wm. Booth 1865 | the porcupine, and the wood- |
| Sa. |  | chuck. But it was for the |
| F |  | miliar, the boy had a special |
| 8 M . |  | eye. A woodchuck, by man's de- |
| 9 Tu |  | cree, had no right on a farm. He was a varmint and a thief |
| 10 W. |  | Yet the boy never really reck- |
| 11 Trh | YGr. El. U.S. Marines | oned him so, unconsciously |
| 12 Fr | ${ }^{\text {If }} \mathrm{W}$ daylight comes ${ }^{\text {cr. }} 1798$ chru clouds | accepting the woodcbuck's |
| F | Gusty winds'll make their rounds come | sassy, because clover was |
| 13 Sa . |  | what he loved, and the farmer |
| F | 6tfa, 33. Fast of Tammuz baby's | couldn't keep him out of it. The boy and the woodchuck |
| 15 M | hill $\mathbb{C}_{\mathrm{E} q}^{\text {on }}\left\{\begin{array}{l}9.8 \\ 9.8 \\ \text { deen blown }\end{array}\right.$ | were not enemies. The boy |
| 16 'ru. | Jack the R1ppers slew $\quad 9.2$ into the | knew that one day his father would give him a gun, and he |
| 17 W |  | uld hunt the woodchuck. |
|  | If ant hills are high | The boy had long thoughts |
| Th | Winter won't be open or dry $\left\{_{8.9}^{8.1}\right.$ Men | the woodchuck. He knew |
| Fr |  | there were three outlets to his |
| 20 Sa . |  | long burrow-the front door with its pile of earth, a sec- |
| 21 F | 6tha. $\mathbb{E}$. Tides ${ }_{9}^{7.7}$ perspire, | ond, quite close by, and more or less hidden but most im- |
| 22 M . | M. Magdale日C $\mathbb{C}_{\text {high }}^{\text {runs }}$ Tides $\chi_{9.8}^{7.8}$ in all | portant, the third outlet, "the |
| Tu |  | hole." The hole was an unproclaimed clean-lipped vertical |
| 24 V | Moay Pannlng (25th) Hoi Hup a | drop two or three feet |
|  | gue, Doa Days Utah | straight down, into which the woodchuck could disappear |
|  | St, James $\left(25\right.$ th-Sept, 5) ${ }^{\text {a }}$ (10.0 stor |  |
| 2 | Men wore long stockings with knee tassels 1851 $\quad\{\overline{8.7} \quad$ in | But the boy knew another |
| 27 Sa . | ¢ 4 C 1a. Hopper Plague $1931 \quad\left\{\begin{array}{l}10.1 \\ 9.0\end{array}\right.$ sight, | curious thing about the wood- |
| 28 F |  | chucks. One June day in the pasture he heard a kind of |
| 29 M . |  | "singing" in the burrow be- |
|  |  | neath him-the mother and |
|  | 1718 - Born 1818 \{9.8 all | sical chatter together. The |
| W |  | hoy never forgot it. |


| AUGUST, Eighth Month. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. | 01 | Days. | $0 \quad 1$ | Days. | 1 | Days. | $0 \quad 1$ | Days. | $0 \quad 1$ |
| $\stackrel{\circ}{\circ}$ | 1 | 17N. 53 | 7 | 1617 | 13 | 1430 | 19 | 1236 | 25 | 1035 |
| . | 2 | $\begin{array}{ll}17 & 38\end{array}$ | 8 | 1600 | 14 | 1412 | 20 | 1216 | 26 | 1014 |
| - | 3 | $\begin{array}{ll}17 & 22\end{array}$ | 9 | 1542 | 15 | 1353 | 21 | 1156 | 27 | 953 |
| $\bigcirc$ | 4 | $17 \quad 06$ | 10 | $15 \quad 25$ | 16 | $13 \quad 34$ | 22 | 1136 | 28 | 931 |
| $\cdots$ | 5 | $16 \quad 50$ | 11 | 1507 | 17 | 1315 | 23 | 1116 | 29 | 910 |
| 6 | 6 | $16 \quad 33$ | 12 | 1449 | 18 | 1256 | 24 | $10 \quad 55$ | 30 | 849 |

D First Quarter, 1st day, 1 h. 35 m., evening, E. O Full Moon, 8th day, 6 h. 33 m., morning, W. © Last Quarter, 15 th day, 9 h. 14 m., evening, E. New Moon, 23rd day, 6 h. 57 m ., evening, W. D First Quarter, 30th day, 6 h. 35 m., evening, W. FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

|  |  | and |  |  |  |  |  |  |  | $\int_{\text {h. }}^{\text {Sets }}$ |  | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 214 |  | 1 Th. 436 | E 1704 | M 1428 | 10 | - 4 |  | ${ }^{\frac{1}{4}} 112^{\text {P }} 31$ |  | ${ }^{1} 10^{\text {P }} 34 \mathrm{E}$ |  | 6 |
| 215 |  | Fr. 437 | e 703 | m 1426 | 10 | $4 \frac{3}{4}$ | ${ }^{\frac{3}{4}} 5^{\frac{1}{4}}$ | $5 \frac{1}{4} 1$ | ${ }^{\sim}$ | 1107 | c) SCO | 7 |
| 21 |  | 3 Sa .438 I | E 702 | m 1424 | 10 | $5 \frac{3}{4}$ | $\frac{3}{4} 6$ | 6i ${ }^{\frac{1}{4}}$ |  | 11 $1_{4}^{\text {P }} 51$ | B SGR | 9 |
| 21 |  | 4 F 439 | E\|701 | m 1421 | 10 | 7 | $7{ }^{\frac{1}{4}}$ | $\frac{1}{4} 4$ |  |  | - SGR | 10 |
| 218 |  | 5 M. 440 I | E 659 | m 1419 | 10 | 8 | $8_{4}^{1}$ | 81 ${ }_{\frac{1}{4}} 5$ |  | $12{ }_{\text {M }} 47$ |  | 11 |
| 219 |  | 6 Tu. 441 | e 658 | м 1417 | 10 | 9 | 91 | $\frac{1}{4} 618$ |  | 155 | b Cap | 12 |
| , |  | 7 W .442 I | E 657 | m 1414 | 10 | 10 | $10_{4}^{1}$ | 658 |  | - 311 | C AQR | 13 |
| 221 |  | 8 Th. 443 I | E 655 | m 1412 | 10 | 11 | 11 | 728 |  | - 429 D |  |  |
| 222 |  | Fr. 444 F | E 654 | m 1410 | 10 | $11 \frac{3}{4}$ |  | 754 |  | 546 |  | 4 |
| 223 | 10 | Sa. 445 | E 653 | L 1407 | 10 | 0 | $0_{2}^{1}$ | 815 |  | , 69 |  | 15 |
| 22 |  | F 447 | F 651 | L 1405 | 11 | $0{ }^{\frac{3}{4}}$ | $1{ }^{\frac{1}{4}}$ | 835 |  | ¢ 808 | H PSC | 16 |
| 225 | 12 | M. 448 I | F 650 | L 1402 | 11 | $1{ }^{\frac{1}{2}}$ | $1{ }^{1} 2$ | 8 53 |  | 914 J | J ARI | 17 |
| 226 | 13 | Tu. 449 I | F\|649 | L 1400 | 11 | $22_{4}^{1}$ | $2{ }^{3}$ | 913 |  | 1020 к |  | 18 |
| 227 |  | W. 450 = | F 647 | L 1357 | 11 |  | $3{ }^{\frac{1}{2}}$ | 935 |  | $11_{\mathrm{M}}^{1} 25 \mathrm{~m}$ |  | 19 |
| 228 |  | Th. 451 I | F 646 | I 1355 | 11 | 4 | $4^{\frac{1}{4}}$ | 1001 |  | $12{ }_{\text {m }}{ }^{\text {P }}$ 2 9 |  | 20 |
| 229 | 16 | Fr. 452 x | F\|644 | L 1352 | 12 | $4{ }_{4}^{3}$ | 5 | 1033 |  | 1340 |  | 21 |
| 230 |  | Sa. 453 I | F 643 | L 1350 | 12 | $5 \frac{3}{4}$ | 6 | 1111 |  | 236 r |  | 22 |
| 23 I | 18 | F 454 F | F 641 | L 1347 | 12 | $6 \frac{1}{2}$ | 7 | $11_{\text {sp }}^{\text {P }} 58$ |  | 335 Q |  | 23 |
| 232 |  | M. 455 I | F 640 | I 1345 | 12 | $7 \frac{1}{2}$ | $7 \frac{3}{4}$ | ${ }^{\frac{3}{4}}$ - |  | - 427 Q |  | 4 |
| 233 |  | Tu. 456 I | F6 38 | L 1342 | 12 | $8 \frac{1}{2}$ | $S_{4}^{3}$ | ${ }_{\frac{3}{4}} 122_{\text {M }}{ }^{\text {5 }}$ |  | 512 p |  | 25 |
| 23 |  | W. 457 \% | F 637 | L 1339 | 13 | $9^{\frac{1}{4}}$ | $9{ }^{\frac{1}{2}}$ | ${ }_{\frac{1}{2}} 1$ |  | 5480 |  | 26 |
| 235 |  | Th. 458 I | F 635 | L 1337 | 13 | 10 | $10^{\frac{1}{4}}$ | 306 |  | 618 N |  | 27 |
| 236 |  | Fr. 459 | G 633 | к 1334 | 13 | $10 \frac{3}{4}$ | 11 | 416 |  | 6441 |  | 8 |
| 237 |  | Sa. 500 | G 632 | k 1331 | 13 | 112 | $11^{1}$ |  |  | 706 k |  | 1 |
| 238 |  | F 5010 | G 630 | k 1329 | 14 |  | 0 | 640 |  | 7271 |  | 2 |
| 239 |  | M. 503 G | G 629 | к 1326 | 14 | $0 \frac{1}{4}$ | $0{ }_{4}^{3}$ | ${ }^{\frac{3}{4}} 7552$ |  | 749 н |  | 3 |
| 240 | 27 | Tu. 504 c | G 627 | к 1323 | 14 | 1 | $1 \frac{1}{2}$ | 905 |  | 811 F |  |  |
| 24 I | 28 | W. 505 c | G 625 | к 1321 | 15 | $1 \frac{3}{4}$ |  | 14 1021 |  | 836 E |  | 5 |
| $24^{2}$ | 29 | Th. 506 g | G 624 | к 1318 | 15 | $2 \frac{1}{2}$ | ${ }^{1}$ | $11_{\text {м1 }}{ }^{\text {A }} 39$ |  | 908 D |  | 6 |
| 243 | 30 | Fr. 5006 | G 522 | kj13 15 | 15 | $3 \frac{1}{2}$ | 4 | $12^{\text {P }}$, ${ }^{\text {a }}$ |  | 948 b |  | 7 |
| 244 |  | 505 | G\|620 | K\|13 12 | 16 | $4 \frac{1}{2}$ | ) | $2_{\text {m }}^{\text {p }} 12$ |  | $10_{\text {M }} \mathrm{P} 38$ |  | 8 |



> Songs, Spring thought perfection,
> Summer criticises;
> What in May escaped detection,
> August, past surprises,
> Notes, and names each blunder.
> Robert Browning

| $\begin{aligned} & 5 \\ & 0 \end{aligned}$ | B | Aspects, Tide Heights | Farmer's Calendar. |
| :---: | :---: | :---: | :---: |
|  | Th | Tides ${ }_{10.0}^{9.3}$ |  |
|  | 2 Fr |  |  |
|  | Sa. |  | of primary source of all wa- |
|  | F |  | ter. ToD soils, grasses, |
|  | M. |  |  |
|  | Tu | Transfiguration Tides $\left\{\begin{array}{l}\text { 80.8 } \\ 10.8 \\ \text { itation }\end{array}\right.$ | added to the waters un |
|  | W |  | eartl-the water tab |
|  | 8 Th |  |  |
|  | Fr |  | decades and ${ }^{\text {deter }}$ |
| 10 | Sa | st. Lawrence | with infinite slo |
|  | 1 F |  | tion that once we ha |
| 12 | 2 M. | ous moon R.I. | pe |
| 13 | Tu |  | filled, th |
|  | W |  | ervoir is simp |
| 15 | Th |  | that we can fill or en |
| 16 | 16 Fr | 7.9 | the |
| 17 | Sa |  | cl |
|  | F |  |  |
|  | M | $\mathbb{C l}_{\text {Cumb }}^{\text {rume }}$ Meassacre 18 | farn |
|  |  | ${ }_{\text {praral }}$ 23 Tides $\{9.7$ Line |  |
|  | W | butshes $6 \Varangle \%$ |  |
|  |  | Tides |  |
|  | Fr | to | tha |
|  | S |  |  |
|  | F |  | grandfather, of |
|  | M |  |  |
|  |  | Tides $\left\{\begin{array}{l}10.4 \\ 10.4 \\ \text { in }\end{array}\right.$ |  |
|  |  | notive $\left\{\begin{array}{l}10.1 \\ 10.5\end{array}\right.$ motion. |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |


| SEPTEMBER, Ninth Month. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. | 0 | Days. | 0 | Days. | 0 | Days. | 0 | Days. | $0 \quad 1$ |
| 율 | 1 | 8N. 06 | 7 | 5 | 13 | 336 | 19 | $\begin{array}{ll}1 & 17\end{array}$ | 25 | 103 |
| $\stackrel{\text { a }}{\text { E }}$ | 2 | 744 | 8 | $5 \quad 30$ | 14 | 313 | 20 | 0 | 26 | 127 |
| - | 3 | $7 \quad 22$ | 9 | 507 | 15 | 250 | 21 | $0 \quad 30$ | 27 | 150 |
| $\stackrel{\text { ® }}{ }$ | 4 | $7 \quad 00$ | 10 | $4 \quad 44$ | 16 | 227 | 22 | 0N. 07 | 28 | 214 |
| $\sim_{0}^{n}$ | 5 | $6 \quad 37$ | 11 | 422 | 17 | 203 | 23 | 0s. 17 | 29 | 237 |
| $\bigcirc$ | 6 | $6 \quad 15$ | 12 | $3 \quad 59$ | 18 | 140 | 24 | $0 \quad 40$ | 30 | 300 |

O Full Moon, 6th day, 5 h. 08 m., evening, E.
© Last Quarter, 14 th day, 3 h .32 m ., evening, W.

- New Moon, 22nd day, 6 h. 09 m., morning, E.

D First Quarter, 29th day, 12 h .07 m ., morning, W.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16







 25 I | 252 | 8 | $F$ | 5 | 16 | н | 06 | Ј | 12 | 50 | 18 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

 254 10 Tu. 518 н 603 J 124419 255 11 W. 519 н 601 J 124219 25612 Th. 521 H 559 J 123920 25713 Fr. 522 н 558 s 123620 25814 Sa .523 н 556 Ј 123320 25915 F 5224 H 554 J $1230 \mid 21$ 26016 M. 525 H 552 r 122821
 262 18 W. 527 I| 549 I 122222 26319 Th .528 1 547 264 20 Fr. 529 I 545 265 21 Sa. 530 i 543 266 22 F 53111542 26723 M. 532 I 540 26824 Tu. 533 I 538 269 25 W. 534 1 536



 27430 M. 540 J J 528 н 114826


The maples bending o'er the gate, Their arch of leaves just tinted With yellow warmth, the golden glow Of coming autumn hinted.

John G. Whittier

| $\begin{array}{l\|l} \dot{2} & \dot{B} \\ \dot{Q} & \dot{\theta} \end{array}$ | $\begin{array}{c\|c} \text { Dates, Feasts, Fasts, } \\ \text { Aspects, Tide Heights } \end{array} \begin{gathered} \text { Weath } \\ \downarrow \\ \hline \end{gathered}$ |
| :---: | :---: |
| 1 F | 12tha. |
| 2 M . |  |
| 3 Tu |  |
| 4 W. |  |
| 5 Th. | (rishes |
| 6 Fr . | The Full Cat nltes Tides ${ }_{\text {d }} 9.6$ |
| 7 Sa . | $\left.廿 \odot \cdot \mathbb{C}_{\text {Eq. }}^{\text {on }}\right] \quad\left\{\begin{array}{l}\text { 9.9 } \\ 10.4 \\ \text { Here's }\end{array}\right.$ |
| 8 F |  |
| 9 M . |  |
| 10 Tu . |  |
| W | Hesiod's Lucky Tide |
| Th. | (eant carry water in one Hoi. drous |
| F | ${ }_{\text {t. } \mathrm{T}^{1866}} \mathbb{C}_{\text {Apo. }}^{\text {in }}$ |
| Sa |  |
| F | 14tha. $\mathbb{C}$. 6 E ¢ |
| M. |  |
| Tu |  |
| W | The |
| T | at |
| F | ¢GE. El. - ¢ $¢$ |
| 21 S | $\bigcirc_{\mathrm{ec}}^{\mathrm{T}}$ |
| 22 F |  |
| 23 M |  |
| ${ }^{4} \mathrm{Tu}$ | ¢Yく - 6 ¢ ${ }^{10.5}$ travel |
| W |  |
| 26 Th . | ${ }^{\text {Day equals }}$ Night ${ }^{\text {c }}$ |
| 27 Fr . |  |
| 28 Sa . |  |
| 29 F |  |
| 30) M |  |

Farmer's Calendar. In the forests of northeru Massachusetts and southern New Hampshire there is as wide a variety of mixed softand hardwoods as anywhere in the United States.

To the lumberman, the great hardwoods notwithstanding, the pine is king. But to many of us the hemlock is an equal sovereign.

One has only to walk through a pine stand and a hemlock grove to understand the complete dissimilarity between these trees. Beneath the pines little grows, for though it is the prime seeder ot old pastures, a pine stand will not regenerate itself. Though pleasant enough to the foot, the pine diff is dry as well as sterile. The forest ceiling keeps not only the sun out, but nothing else in. There is a barrenness to the grey aisles. The air has little pulse, no flow, no sound. There are no wings, no song.

To walk in a hemlock grove is to tread a carpet cool and moist. The fallen monarch is rich with mosses. The forest floor is a nursery of young hemlocks, ground hemlock, and yew. Each parent hemlock is filled with tiny cones. The shade, not the shadow of the grove (there are no shadows) is a luminous greenespecially in spring when every tree is covered with miniature yellow-green blossoms. In the hemlock tops the wind is a motion only. Below it is always hushed.

Though it is long since I believed in pixies and gnomes (and I trust I did), they must surely live in a hemlock grove.

| OCTOBER, Tenth Month. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
| 5 | Days. | $0 \quad 1$ | Days. | $0 \quad 1$ | Days. |  | Days. | 0 | Days. |  |
| ت | 1 | 3s. 23 | 7 | 542 | 13 | 758 | 19 | $10 \quad 10$ | 25 | 1217 |
| . | 2 | $3 \quad 47$ | 8 | 606 | 14 | 821 | 20 | 1032 | 26 | 1237 |
| 픙 | 3 | $4 \quad 10$ | 9 | 628 | 15 | 843 | 21 | 1053 | 27 | 1258 |
| $\stackrel{\otimes}{\circ}$ | 4 | $4 \quad 33$ | 10 | 651 | 16 | 905 | 22 | 1114 | 28 | 1318 |
| $\cdots$ | 5 | $4 \quad 46$ | 11 | 713 | 17 | 927 | 23 | 1135 | 29 | 1338 |
| $\bigcirc$ | 6 | $5 \quad 19$ | 12 | 736 | 18 | 949 | 24 | 1156 | 30 | 1357 |

O Full Moon, 6th day, 6 h. 47 m., morning, W.
© Last Quarter, 14th day, 10 h .06 m ., morning, W.

- New Moon, 21st day, 4 h. 45 m., evening, W.

D First Quarter, 28th day, 7 h. 40 m., morning, E.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16







 28 I $\quad 7$ M. 548 J 516 H 1128.28 | 11 | $11 \frac{1}{4}$ | 5 | 20 | $G$ | 5 | 49 | J | - | - |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $11 \frac{1}{2}$ | - | 5 | 41 | F | 6 | 54 | k | ARI | $\mathbf{1 5}$ |




 28612 Sa. 553 к 507 G 111429
 288 14 M. 556 к 504 G 1110930 $289 \quad 15 \mathrm{Tu} .557$ к 503 G 110630 29016 W. 558 k 501 G 110330 291 17 Th. 559 к 459 G 110030 29218 Fr. 600 k 458 G 105 S 31 29319 Sa. 601 k 456 G 105531 29420 F 603 K 455 g 105231 29521 M. 604 k 453 F 104931 29622 Tu. 605 L 452 F 104731 29723 W. 606 L 450 F 104431 29824 Th. 607 L 449 F 1041 29925 Fr. 609 L 447 F 103932 30026 Sa. 610 L 446 F 103632
 302 2S M. 612 L 442 F 1030.32 30329 Tu. 613 L 441 F 1028 32 30430 W. 615 L 440 F 102632 30531 Th. $616 \mid$ L 438 न 102332


Bright yellow, red and orange,
The leaves come down in hosts;
The trees are Indian princes,
But soon they'll turn to ghosts.
William Allingham


| 1968] |  | NOVEMBER, Eleventh Month. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
|  | Days. | $0 \quad 1$ | Days. | 0 | Days. | $0 \quad 1$ | Days. | 0 | Days. | 0 |
| - | 1 | 14s. 36 | 7 | 1626 | 13 | 1807 | 19 | 1935 | 25 | 2051 |
| ق | 2 | $14 \quad 55$ | 8 | 1644 | 14 | 1822 | 20 | 1949 | 26 | 2103 |
| " | 3 | 1514 | 9 | 1701 | 15 | 1837 | 21 | 2002 | 27 | 2114 |
| $\stackrel{\sim}{\circ}$ | 4 | $15 \quad 32$ | 10 | 1718 | 16 | 1852 | 22 | 2015 | 28 | 2124 |
| $\cdots$ | 5 | $15 \quad 51$ | 11 | 1734 | 17 | 1907 | 23 | 2028 | 29 | 2134 |
| 0 | 6 | $\begin{array}{ll}16 & 09\end{array}$ | 12 | 1751 | 18 | 1921 | 24 | 2040 | 30 | 2144 |

O Full Moon, 4 th day, 11 h .25 m ., evening, W.
© Last Quarter, 13 th day, $3 \mathrm{~h} .54 \mathrm{~m} .$, morning, E.

- New Moon, 20th day, 3 h. 02 m., morning, E.

D First Quarter, 26th day, 6 h .31 m ., evening, W.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16




 3IO 5 Tu. 622 m 433 E 101132

 313 8 Fr. 626 m 430 E 100432
 315 10 F 629 м 428 E 95932 3I6 11 M. 630 m 427 E 957 . 32 3 I7 12 Tu. 6 31. M| 426 е 95532 31813 W. 632 M 425 E 95231 31914 Th. 633 M 424 E 95031 320 15 Fr. 635 и1 423 E 94831

 32318 M. 638 N 420 D 94231 32419 Tu. 640 N 419 D 940 30 325 20|W. $641 \times 419$ D 938 N 30 32621 Th. 642 N 4 18 D 93630 32722 Fr. 643 N 417 D 93430 328 23 Sa. $644 \times 417$ D 932.29
 33025 M. $647 \times 416$ D 92929 33 I 26 Tu. $648 \times 415 \mathrm{D} \times 2728$ 332 27 W. 649 N 415 D 92628 333 28 Th. $650 \times 414$ D 92428 334 29 Fr. 651 N 414 D 92327 335 30 Sa. 652 N 414 D 92127

| $10 \frac{1}{2}$ | 11 | 4 | 07 | E | 5 | 49 | L | TAU | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 11 | $11 \frac{1}{2}$ | 4 | 32 | D | 6 | 54 | n | - | - |

$11 \frac{3}{4}-502 \mathrm{~B} 759$ O TAU 15


| $0_{4}^{\frac{3}{4}}$ | 1 | 6 | 25 | A | 10 | 02 | $Q$ | G'M | 17 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


|  | $\frac{1}{2}$ |
| :---: | :---: |


| $2 \frac{1}{4}$ | $2 \frac{1}{2}$ | S | 18 | B | $11_{\mathrm{M}}^{1} 39$ | r | CNC | 19 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |




|  | 5 | $11_{\mathrm{sl}^{\text {P }} 38 \mathrm{~F}}$ | 12 |  | Leo | 23 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6 |  | 133 | K | Leo | 24 |
|  | $6 \frac{3}{4}$ | ${ }_{4}^{3} 122_{\text {M }} 47$ | 154 |  | vir | 5 |
|  | $7{ }^{3}$ | ${ }^{\frac{3}{4}}$ | 215 |  | vir | 26 |
|  |  | 311 | 237 |  |  | 27 |
|  |  |  |  |  |  |  |


| $9 \frac{3}{4}$ | $10^{\frac{1}{4}}$ |  | 551 N | 334 |  |  |  | 29 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $10 \frac{1}{2}$ | $11 \frac{1}{4}$ |  | 7150 | 415 |  |  | co |  |
| $11 \frac{1}{2}$ |  |  | 837 r | 508 |  |  |  |  |
| 0 | $0_{1}^{1}$ |  | 949 Q | 614 |  |  |  |  |
| 1 | 1 |  | 1048 P | 730 | 1 | B | CAP |  |
| 2 | 2 |  | $11_{\text {ar }}^{4} 320$ | S 48 |  |  |  |  |
| $2 \frac{3}{4}$ | 3 |  | $22_{11}^{\text {P }} 06 \mathrm{~N}$ | 1005 |  |  |  |  |
| 4 | 4 |  | 233 L | $11_{\mathrm{M}}^{\mathrm{P}} 18$ | F |  |  |  |
| 5 |  |  | 254 K |  |  |  |  |  |
| 6 | $6 \frac{1}{4}$ |  | 114 | $12^{\text {A }} 26$ |  |  | PSC |  |
|  | $7 \frac{1}{4}$ |  | 132 H | 132 |  |  |  | 10 |
|  | S $\frac{1}{4}$ |  | $1_{N}^{P} 51 \mathrm{G}$ |  |  |  |  |  |

# Beyond bleak winter's rage, beyond the Spring <br> That rolling Earth's unvarying course will bring, Who tills the ground looks on with nental eye, And sees next Summer's sheaves and cloudless sky. <br> Robert Bloomfield 

| $\begin{array}{l\|l} \dot{C} \\ \dot{\theta} & \dot{\theta} \end{array}$ | Dates, Feasts, Fasts, Aspects, Tide Heights | Weather | Farmer's Calendar. |
| :---: | :---: | :---: | :---: |




 5 Tu. Fawker plot n iley. 9.9 let's sue
 7 Th. Arcitio seals boll 8 Fr.

9 Sa .
10 F
11 M .
12 Tu.
 2nnu. ©. Tante Ti.0 you'll
 13 IV Sea root crops $\langle 8,6$ rain logs. 13. Summer (13-20) Tides $\{8.5$ Indians 14 Th.

15 Fr.

invented
this warm
 17 F 18 M. 24 tha. 猜. Leonias
 to escape winter by easy Alewlyes tides $\{11,2$
travel.

21 Th. Maynower Compact $\left._{\text {nd }}^{22} 69 \mathbb{C}\right]_{1}^{11.7}$ On both
 of these
 Mary 12, Jun. $1 \mathrm{D}, \mathrm{in} 11$, Nor. 11 Ma: 24tha. ©. Prane Erines Saturdays Nattian Hale As today so unvelled 1893 next Feb.
 route south - Muiny $18+2$
27 W . Phobebe sions Liast Run
28 Th . Thanksgiving Day $\left\{\begin{array}{lll}\{8,9 & \text { tragedies. } \\ \hline\end{array}\right.$


Lower man's metabolism only 8 degrees
Héll live as long as maple trees

A farmer's woodlot was once worth considerable, for wood was his only means of heat. In a world of sheep and cattle pastures, he could be hard put to it to keep his woodlot. Like as not the time would come when hed have to turn it into pasture and buy another woodlot as close by as he could.

To buy up woodlots, not only in one's town, but in the region, was profitable to many a shrewd farmer as a kind of second business. For though a woodlot in itself might not be a great piece, perhaps an acre or two-or less-or perhaps just a "corner," it was comparable in value then to a similar piece of suburban land todas.

But in a state that is now $90 \%$ wooded instead of $60 \%$ pastures and crops, a woodlot as such has little value. The superhiglnways and industries that follow them, however, offer opportunities for wealth the old timer with his sheep and woodlots never dreamed of. The fortunate countryman can offer his scrub and pasture lands (if he still owns them) as "industrial acres" -and there's gold in his glavel banks. He can make a nice profit indeed in bnying them up. They're scarce, and unlike a woodlot, a gravel bank once dug out never grows back.

But alas for the farmer whose lands are too far from the highways and industrial areas: le will be left still witl the doubtful blessing of stone walis and field pine.
1968] DECEMBER, Twelfth Month.

ASTKONOMTCAL CALCULATIONS.

|  | Days. | 0 | 1 | Days. | 0 | 1 | Days. | 0 | , | Days | 0 | , | Days. | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 21 s . |  | 7 | 22 | 40 | 13 |  |  | 19 | 23 | 26 | 25 |  |  |
|  | 2 | 22 | 02 | 8 | 22 | 47 | 14 | 23 | 15 | 20 | 23 | 26 | 26 |  | 21 |
|  | 3 | 22 | 11 | 9 | 22 | 52 | 15 | 23 | 18 | 21 | 23 | 27 | 27 |  | 18 |
|  | 4 | 22 | 19 | 10 | 22 | 58 | 16 | 23 | 21 | 22 | 23 | 27 | 28 | 23 | 15 |
|  | 5 | 22 | 26 | 11 | 23 | 03 | 17 | 23 | 23 | 23 | 23 | 26 | 29 | 23 | 12 |
|  | 6 | 22 | 34 | 12 | 23 | 07 | 18 | 23 | 24 | 24 | 23 | 25 | 30 | 23 | 08 |

O Full Moon, 4th day, 6 h. 08 m., evening, E.
© Last Quarter, 12 th day, 7 h .50 m ., evening, E.

- New Moon, 19th day, 1 h. 19 m., evening, W.

D First Quarter, 26th day, 9 h. 15 m., morning, E.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16


337 2 M. 654 N 413 D
338 3 Tu. 655 N 413
339 4 W. 656 N 412
91826

$340 \quad 5$ Th. 657 N N 412
$34 \mathrm{I} \quad 6$ Fr. $658 \times 412$
3427 Sa. 659 o 412 c
343 8 F 7000412
344 9 M. 701 o 412
34510 Tu .702 o 412 c
34611 W. 703 o 412 c
34712 Th. 704 o 412 c
348 13 Fr. 704 o 413
34914 Sa .705 of 413 c
35015 F 706 o 413 c
35 I 16 M. 707 O o 413 C
$35^{2} 17 \mathrm{Tu} .707 \mathrm{o} 414 \mathrm{c}$
35318 W. 70 0s o 414 c.
35419 Th. 709 o 414 c
35520 Fr. 709 o 415 C
35621 Sa .710 o 415 C
35722 F 710 o 416 c
35823 M. 711 o 416 C
35924 Tu. 711 o 417 c
36025 W. 711 o 418 c
36 I 26 Th .712 o 418 c
362 27 Fr. 712 o 419 c
363 28 Sa. 712 o 420 c

36530 M. 713 o| 421 d| 90913
36631 Tu. 713 of 422 d 90913

Ring out, wild bells, to the wild sky,
The flying cloud, the frosty night.
The year is dying in the night.
Ring out, wild bells, and let him die.
Alfred, Lord Tennyson


## Che 椚和ets, 1968

Below are given the times of rising or setting of the Planets named, on the first, eleventh and twenty-first of each month. The time of the rising or setting of any one of said Planets between the days named may be found with sufficient accuracy by interpolation. For explanation of keys (used in adjusting times given to your town) see page 16. Keys appear below in capital letters.

## VENUS

Venus is a Morning Star for
 almost the first half of the year and an Evening Star during its second half. Venus reaches Superior Conjunction on June 20. Its elongation, west of the sun as the year begins, will decrease steadily until June 20 , and its rising will occur less and less before sunrise. After June 20 it will make its appearance in the western sky after sunset with an increasing eastern elongation which is nearing its greatest value as the year ends. The planet's brightness will be about the same at the year's beginning and end, approximately eight times that of the brightest star.



| Sep | 1st/sets | 708 P.M. |
| :---: | :---: | :---: |
|  | 11th | 654 |
|  | 21st | 641 |
| Oct | 1 st sets | 630 P |
|  | 11th | 622 P. |
|  | 21st | 617 P |
| Nov | 1st sets | 619 P.M |
|  | 11th | 627 P.M |
|  | 21st | 640 P.M. |
| Dec | 1st/sets | 658 Р.м. |
|  | 11th " | 720 Р.м. |
|  | 21 st | 743 Р.м. |
|  | 31st set | 805 |

## MARS

Mars is an Evening Star from the year's beginning until it comes to Conjunction on June 21. Thereafter it graces the sky before sunrise as a Morning Star for the rest of the year.


| JAN | 1st | sets | 801 P... | F |
| :---: | :---: | :---: | :---: | :---: |
|  | 11 th |  | 803 P.m. | $\mathrm{F}^{\text {a }}$ |
|  | 21 st |  | 804 P.m. | - |
| Feb | 1st | sets | 805 P.M. |  |
|  | 11th |  | 805 |  |
|  | 21st. |  | 805 P.M. |  |
| Mar | 1st | sets | 805 P.M. |  |
|  | 11 th |  | 805 |  |
|  | 21st | . | 804 |  |
| PR | 1st | sets | 803 P |  |
|  | 11th | " | 802 |  |
|  | 21st | '6 | 800 |  |


| May |  | sets | 758 P.м. | N |
| :---: | :---: | :---: | :---: | :---: |
|  | 11 th | " | 755 P.м. | N |
|  | 21st | " | 751 Р.м. | O |
| Jun | 1 st | sets | 746 P.m. | O |
|  | 11 th | sets | 740 Р.м. | O |
|  | 21st | rises | $405 \mathrm{~A} . \mathrm{m}$. | C |
| Jul | 1 st | rises | 356 A . m . | C |
|  | 11 th | " | 348 A.M. | C |
|  | 21st |  | 340 A.m. | C |
| Avg | 1st | rises | 333 A.m. | D |
|  | 11th |  | $327 \mathrm{~A} . \mathrm{m}$. | D |
|  | 21st | " | 321 A |  |


| Sep |  | ises | $314 \mathrm{~A} . \mathrm{m}$. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 11th |  | 308 A.m. | F |
|  | 21st |  | 301 A.m. | F |
| Ост | 1st | rises | 254 A.ल. | G |
|  | 11 th |  | $247 \mathrm{~A} . \mathrm{m}$. | G |
|  | 21st |  | 240 Amm . | H |
| Nov | 1 st | -ises | 231 A.m. |  |
|  | 11th | " | $223 \mathrm{~A} . \mathrm{m}$. |  |
|  | 21st | " | $214 \mathrm{~A} . \mathrm{m}$. |  |
| Dec | 1st | rises | 206 A.m. |  |
|  | 11th |  | 156 A.m. |  |
|  | 21 st |  | 147 A.m. | K |
|  | 31st | rises | 137 A. |  |

## JUPITER

Jupiter is a Morning Star at the year's beginning and at its end. Between Fcbruary 20 when it reaches Opposition and September 8 when it comes to Conjunction it is an Evening Star. It attains its greatest brightness of the year at and near opposition when it will be about $408,000,000$ miles from the earth.



| Jan | 1st/s | 11 |
| :---: | :---: | :---: |
|  | 11 th | 1055 Р.м. |
|  | 21st | 1019 |
| Feb | 1st sets | 940 |
|  | 11th | 906 |
|  | 21st | 832 |
| Mar | 1st set | 801 |
|  | 11th | 728 |
|  | 21st | 654 |
| APr | 1st/sets | 618 |
|  | 11 th rises | 509 |
|  | 21st | 433 |



| Sep | 1st\|rises | 806 P.м. |  |
| :---: | :---: | :---: | :---: |
|  | 11th | 726 P.M. |  |
|  | 21st | 645 P.M. | H |
| Oct | 1st rises | 604 P.M. | H |
|  | 11th rises | 523 P.м. | H |
|  | 21st sets | $533 \mathrm{~A} . \mathrm{m}$. |  |
| Nov | 1 1st sets | $446 \mathrm{~A} . \mathrm{m}$. |  |
|  | 11th | $403 \mathrm{A.m}$. |  |
|  | 21st | 321 A.m. |  |
| Dec | 1st sets | 239 A.m. |  |
|  | 11th | 159 А.м. | J |
|  | 21st | 119 A.m. |  |
|  | 31st sets | 1240 A.m |  |

## MERCURY

Mercury is most easily seen when near its greatest elongation. For observation just after sundown the best dates will be on and about January 30, May 23, and September 20 (the dates of its greatest eastern elongation), when it will set 1 h . $34 \mathrm{~m} ., 1 \mathrm{hr} .57 \mathrm{~m}$. , and 0 h .44 m ., respectively after the sun. For observation just before sunrise the best dates will be on and about March 12, July 11, and October 31 (the dates of its greatest western elongation), when it will rise $0 \mathrm{~h} .39 \mathrm{~m} ., 1 \mathrm{~h} .21 \mathrm{~m}$. , and 1 h .38 m ., respectively before the sun. Mercury will be in Superior Conjunction on April 24, August 7, and December 6, and in Inferior Conjunction on February 15, June 18, and October 15.
(A Planet is called Morning Star when it is above the horizon at sunrise, and Evening Star when it is above the horizon at sunset. More precisely, it is a Morning Star when it is less than $180^{\circ}$ west of the Sun in right ascension and Evening Star when it is less than $180^{\circ}$ east. When the planet is near conjunction or opposition, the distinction is unimportant.)


Salem Court House (facing south) where the action of this true, intriguing story is said to have taken place.

# THE MAN WHO SUBDUED THE DREAD WOLF PEACH 

by Henry N. Ferguson

- EVERYONE IN SALEM, Massaehusetts and the surrounding eountryside knew that Colonel Robert Gibbon Johuson was au ecceutrie. If there were any doubters, his latest eseapade brought them into line. It was in the early autumn of 1820 , and Colonel Johnson had just anuouneed that at high noon, on September 26, he would eat a Wolf Peaeh on the steps of the Court House.

Now scientists and doetors had long proclaimed the Wrolf Peach to be a highly poisonous thing. No one had ever dared taste it for fear of the lethal eonsequenees. Considering that Colonel Johnsou's announeed intention amounted to almost certain suicide, his friends and ueighbors eame from miles around to wituess the execution. It was the eonsidered opinion of most of the 2,000 who jammed the square that morning that Johnson was only seeking publicity and had not the slightest intention of emerging from his mansion on Market Street, a few doors away from the Court House, to test the effeet of the dread Solanum Lycopersicum. Not all were agreed that he would drop dead in his traeks, but there was no question but he would suffer a lingering death. Hadn't the Wolf Peaeh been a kuowu poison for eenturies?

Colonel Johnson was 49 years old. Born and raised in Salem, he was a member of a pioneer family and was Salem's First Citizen. In 1808 he had made a trip abroad. When he returned, he introdueed the Solanum Lycopersicum to the farmers of the community, persuading theu to grow the Things as ormamental shrubs. In return, he offered prizes for the largest and most attractive at each County Fair.

Colonel Johnson was not only a man of wealth and social prestige, but a noneomformist of the highest degree. During the Revolutionary War, wheu he was only seven, he slapped a British officer. He marehed in the Whisky Rebellion, was a friend of George Washington and admired the former President so much that he affected Washington's mannerisms and dress long after they went out of style. Sueh aetions were a souree of mueh amusemeut to his neighbors.

The Colonel had severed his membership with the Episeopal Chureh over a faneied slight to his friend, the Reverend Ashbel Green, president of Priueeton College, who had been loeked out of his quarters, aecidentally. Johnson promptly joined hands with the Presbyterians, and gave them land next to his mansion to build a ehureh of their own.

And now, he was about to climax an interesting life by challenging the deadly Wolf Peach or, as it was also called, the Jerusalem Apple or Love Apple - shrub, flower, fruit or whatever it was!

The Colonel's plysician, Dr. James Van Meeter, had his own ideas concerning the folly of the undertaking. "The foolish Colonel will foam and froth at the mouth and double over with appendicitis," lic predicted. "All that oxalic acid! One dose and you're dead. Johnson suffers from high blood pressure, too. That deadly juice will aggravate the condition. If the Wolf Peach is too ripe and warmed by the sun, he'll be exposing himself to brain fever. Should he survive, by some unlikely chance, I must remind that the skin of the Solamm Lycopersicum will stick to the lining of his stomach and cause cancer, eventually.
"I have given the Colonel the benefit of my scientific knowledge," concluded Dr. Van Meeter. "Reason will prevail. Johnson won't go through with it."

Noon came, but no Colonel Johnson. Weary spectators began to hoot and jeer. Then, 15 minutes past the hour, the Colonel emerged from his mansion and strolled up Market Street. The crowd broke into cheers. The firemen's band struck up a lively tune.

Johnson was an impressive figure as he strode along the street. He was dressed in his usual black suit with white ruffles, black shoes, tricorne hat, black gloves and cane. He had piercing eyes, a high forehead, aquiline nose, powerful chin, and iron-grey hair which he wore in a queue under his liat.

As he mounted the Court House steps he began a dissertation on the history of the Solanum Lycopersicum. He explained that it had been used as a food by the Egyptians and Greeks, only to be lost in antiquity. Much later, it had turned up in Peru and Mexico, where Cortez and Pizzaro took it to Europe. From there the Colonel had brought it to Salem.

Johnson selected a choicc sample from the basket at his side. Holding it up he watched it glisten an evil scarlet in the sun.
"The time will come," he promised, "when this luscious, golden apple, rich in nutritive value, a delight to the eye, a joy to the palate - whether fried, baked, broiled or eaten raw - will form the foundation of a great garden industry, and will be recognized, eaten, and enjoyed as an edible food."

On and on rambled the speaker, his audience growing more impatient by the minute.
". . . and to help dispel the tall tales, the fantastic fables about this thing; to prove to you that it is not poisonous and will not strike you dead. I am going to eat one right now."

There was not a sound as the Colonel dramatically brought the Solanmm Lycopersicum to his lips-and took a bite. A woman screamed and fainted in the dust of the street. She was ignored. All eyes were on Colonel Johnson as he took one astonishing bite after another. He ate two, then raised his hands high, turned completely around, and smiled broadly at the crowd.
The spectators broke into a rousing cheer. Doctor Van Meeter snapped shut his medical kit, jammed his hat over his ears, and stalked down the street. The firemen's band blared a jaunty air.
Men and women were nearly delirious with joy. "Look!" they shouted. "He's still alive! It's not poisonous! See, he's still on his feet!"

The thing that nobody thought was possible had come to pass. The flamboyant Colonel Johnson, first citizen of Salem, had successfully defied the warnings of scientists, botanists, doctors, and learned men of his day. Without leaving any shred of doubt, he had proved the pure and cdible qualities of this dread shrub, and by so doing had transformed it into what was soon to be the "first fruit" of the American table: the tomato.

## OUTDOOR PLANTING TABLE, 1968

The best time to plant flowers and vegetables which bear crops above the ground is during the LIGHT of the moon that is, between the day the moon is new to the day it is full. Flowers and vegetables which bear crops below ground should be planted during the DARK of the moon that is, from the day after it is full to the day before it is new again. These moon days for 1968 are given in the "Moon Most Favorable" columns below. See pages 2446 for exact times and days of the new and full moons. On these pages you will also find in the "Moon's Place" columns, the Zodiac signs for each day. Those most favorable for planting flowers and vegetables which bear crops above ground are ARI, CNC, LIB, AQR, and PSC. The only sign which is good for flowers or vegetables which bear crops below ground is TAU.

The three columns below are for approximately the $42^{\circ}, 39^{\circ}$, and $34^{\circ}$ Latitude parallels. If the latitude of your town (see pages 91-108) is, for example, halfway between $42^{\circ}$ and $39^{\circ}$, then you would plant on dates halfway between those given in the $42^{\circ}$ column and the $39^{\circ}$ column, etc. For every 500 feet above sea level, plant one week later than dates given below.

| Above Ground Crops Marked (*) Plant Bet. New and Full MoonAll Others Bet. Full and New E means Early, L means Late. | $42^{\circ}$ Boston, Chicago, Des Moines, etc. |  | $39^{\circ}$ Wash., Cinc., St. Louis, Kan. City |  | $34^{\circ}$ Atlanta, Los Angeles |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plant |  | Plant |  | Plant |  |
|  | Anytime | Moon | Anytime | Moon | Anytime | Moon |
|  | Betwcen | Most | Between | Most | Between | Most |
|  | Dates | Favorable | Dates | Favorable | Dates | Favorable |
|  | Below | Between | Below | Between | Below | Between |
| *Barley | 5-15/6-21 | 5-27/6-10 | 3-15/4-7 | 3-28/4-7 | 2-15/3-7 | 2-28/3-7 |
| *Beans (E) | 5-7/6-21 | 5, 7-12 | 4, 15-30 | 4, 27-30 | 3-15/4-7 | 3-28/4-7 |
| (L) | 6-15/7-15 | 6-25/7-9 | 7,1-21 | 7, 1-9 | 8, 7-30 | 8, 23-30 |
| Beets (E) | 5, 1-15 | 5, 13-15 | 3-15/4-3 | 3, 15-27 | 2, 7-29 | 2, 7-27 |
| (L) | 7-15/8-15 | 7, 15-24 | 8, 15-30 | 8, 15-22 | 9, 1-30 | 9, 7-21 |
| *Broccoli (E) | 5, 15-30 | 5, 27-30 | 3, 7-30 | 3, 7-14 | 2-15/3-15 | 2-98/3-14 |
| (L) | 6-15/7-7 | 6-25/7-7 | 8,1-20 | 8,1-8 | 9, $7-30$ | 9,22-30 |
| *Brussels Spr. | 5, 15-30 | 5, 27-30 | 3-7/4-15 | 3, 7-14 | 2-11/3-20 | 2-28/3-14 |
| *Cabbage Pl. (E) | 5, 15-30 | 5, 27-30 | 3-7/4-15 | 3, 7-14 | 2-11/3-20 | 2-28/3-14 |
| (L) | 6-7/7-7 | 6, 7-10 | 7-1/8-7 | 7, 1-9 | 8, 15-30 | 8, 23-30 |
| Carrots (E) | 5, 15-30 | 5, 15-26 | 3, 7-31 | 3, 15-27 | 2-15/3-7 | 2, 15-27 |
|  | 6-15/7-21 | 6, 15-24 | 7,7-30 | 7, 10-24 | 8-1/9-7 | 8, 9-22 |
| *Cauliflower Pl. (E) | 5, 15-30 | 5, 27-30 | 3-15/4-7 | 3-28/4-7 | 2-15/3-7 | 2-28/3-7 |
| Celery (E) (L) | 6-15/7-21 | 6-25/7-9 | 7-1/8-7 | 7, 1-9 | 8, 7-30 | 8, 7-8 |
| Celery (E) | 5-15/6-30 | 5, 15-26 | 3,7-30 | 3, 15-27 | 2, 15-28 | $\bigcirc, 15-27$ |
| (L) | 7-15/8-15 | 7, 15-24 | 8-15/9-7 | 8, 15-22 | 9, 15-30 | $9,15-21$ |
| *Corn, Sw. (E) | 5-10/6-15 | $5,10-12$ | 4, 1-15 | 4, 1-12 | 3, 15-29 | 3, 28-29 |
| (L) | 6, 15-30 | 6, 25-30 | 7, 7-21 | 7, 7-9 | 8, 7-30 | 8, 23-30 |
| *Cucumber | 5-7/6-20 | 5, 7-12 | 4-7/5-15 | 4, 7-12 | 3-7/4-15 | 3-28/4-12 |
| *Eggplant Pl. | 6, 1-30 | 6, 25-30 | 4-7/5-15 | 4, 7-12 | 3-7/4-15 | 3-28/4-12 |
| Endive (E) | 5, 15-30 | 5, 15-26 | 4-7/5-15 | 4, 13-26 | 2-15/3-20 | 2, 15-27 |
| (L) | 6, 7-30 | 6, 11-24 | 7-15/8-15 | 7, 15-24 | 8-15/9-7 | 8,15-22 |
| *Flowers (All) | 5-7/6-21 | 5, 7-12 | 4, 15-30 | 4, 27-30 | 3-15/4-7 | 3-28/4-7 |
| *Kale (E) | 5, 15-30 | 5, $27-30$ | 3-7/4-7 | 3, 7-14 | 2-11/3-20 | 2-28/3-14 |
| (L) | 7-1/8-7 | 7-25/8-7 | 8, 15-31 | 8, 23-31 | 9, 7-30 | 9, 22-30 |
| Lcek Pl. | 5, 15-30 | 5, 15-26 | 3-7/4-7 | 3, 15-27 | 2-15/4-15 | 2, 15-27 |
| *Lettuce | 5-15/6-30 | 5-27/6-10 | 3, 1-31 | 3, 1-14 | 2-15/3-7 | 2-28/3-7 |
| *Melon (Musk) | 5-15/6-30 | 5-27/6-10 | 4-15/5-7 | 4-27/5-7 | 3-15/4-7 | 3-28/4-7 |
| Onion Pl. | 5-15/6-7 | 5, 15-26 | 3, 1-31 | 3, 15-27 | 2, 1-28 | -, 15-27 |
| *Parsley | 5, 15-30 | 5, 27-30 | 3, 1-31 | 3, 1-14 | 2-20/3-15 | 2-28/3-14 |
| Parsnip | 4, 1-30 | 4, 13-26 | 3, 7-31 | 3, 15-27 | 1-15/2-4 | 1,16-28 |
| *Pcas (E) | 4-15/5-7 | 4-27/5-12 | 3, 7-31 | 3, 7-14 | 1-15/2-7 | 1-29/3-7 |
| *P (L) | 7,15-30 | 7,25-30 | 8, 7-31 | 8, 7-8 | 9, 15-30 | 9, 22-30 |
| *Pepper Pl. | 5-15/6-30 | 5-27/6-10 | 4, 1-30 | 4, 1-12 | 3, 1-20 | 3, 1-14 |
| Potato | 5, 1-15 | 5, 13-15 | 4, 1-15 | 4, 13-15 | 2-10/3-1 | 2, 15-27 |
| *Pumpkin | 5, 15-30 | 5, 27-30 | 4, 23/5-15 | 4-27/5-12 | 3, 7-20 | 3, 7-14 |
| Radish (E) | 4, 15-30 | 4, 15-26 | 3, 7-31 | 3,15-27 | 1-21/3-1 | 1,21-28 |
| . (L) | 8, 15-30 | 8, 15-22 | 9, 7-30 | 9, 7-21 | 10, 1-21 | 10, 7-20 |
| *Spinach (E) | 5,15-30 | 5, 27-30 | 3-15/4-20 | 3-28/4-12 | 2-7/3-15 | 2-28/3-14 |
| (L) | 7-15/9-7 | 7-25/8-8 | 8-1/9-15 | 8, 1-8 | 10, 1-21 | 10, 1-6 |
| *Suummer Squash | 5-15/6-15 | 5-27/6-10 | 4-15/5-1 | 4-27/5-1 | 3-15/4-15 | 3-28/4-12 |
| *Swiss Chard | 5, 1-30 | 5,27-30 | 3-15/4-15 | 3-28/4-12 | 2-7/3-15 | 2, 7-14 |
| *Tomato Pl. | 5, 15-30 | 5, 27-30 | 4, 7-30 | 4, 27-30 | 3, 7-20 | 3; 7-14 |
| Turnip (E) | 4,7-30 | 4,13-26 | 3, 15-30 | 3, 15-27 | 1-20/2-15 | 1, 20-28 |
| (L) | 7-1/8-15 | 7, 10-24 | 8,1-20 | 8, 9-20 | 9-1/10-15 | 9, 7-21 |
| *Wheat (Winter) | 8, 11-15 | 8, 5-8 | 9-15/10-20 | 9-22/10-6 | 10-15/12-7 | 10-23/11-1 |
| (Spriug) | 4, 7-30 | 4, 29-30 | 3,1-20 | 3, 1-14 | 2,15-28 | 2, 28 |



# THE MYSTERY of the MAGIC KILLERS 

- TO ANYONE brought up around apple trees, potato plants, and rose bushes-cabbages and gypsy moths-the dictionary of words pointing at insects and pests with intent to kill is not too large. Arsenic, sulphur, nicotine-a hand or barrel sprayer, a duster-and some idea of whether you are pursuing grubs, chewers, suckers, or blight, make you a formidable Protector of the Farm and Garden. You are not too bad either at the pluck and squash method right at the scene. Weeds are something else again. You get there with a hoe, a dandelion digger, a scratcher, an old kitchen knife, a broken back, and two displaced knee caps. Or, when it comes to the brambles, alders, unwanted brush and trees growing out from your walls or in the old pasture, clippers, axe, scythe, and the old fashioned hand pull, will do all the tricks. Come on now, you have to admit after it is all over, you enjoy it. You can surrey the patch you have cleaned up-be it $10^{\prime} \times 10^{\prime}$ or $500^{\circ} \times 500^{\prime}$, as a job well done-you liave done it-and give yourself an A for Accomplishment. The only thing is, next year there is the same durned job to do all over again. Everything cut down and destroyed has grown back into the exact place from which, last year, you had removed it. There is nothing to prevent you from continuing to win these "As" (and the Happy Life) each year from Spring to Winter.

But just in case you are wondering what has happened, or what is going on next door, when you see a field or forest that looks as if the Spanish Plague had descended upon it in the night, look up under $\mathbf{H}$ for Herbicide and consider its definition: "anything used to kill weeds." That "anything" is the surprise basket full of chemicals (trademarked and otherwise) which has your neighbor by the ears. He'll tell you, without your asking, he will soon have the best garden, the best lawn, the best pasture in town-no sweat, no broken back, no crooked knees, and by jiminy, the job once done, always done. If thee would go and do likewise, thou must get hep to the rules and regulations.

You should send for the Handbook on Weed Control ( $\$ 1.25$ postpaid), Brooklyn Botanic Garden, 1000 Washington St., Brooklyn, N. Y.'; and ( $\$ 1.25$ postpaid) Creating New Landscapes with Herbicides, Bulletin 14. Connecticut Arboretum, Connecticut College, New London, Conn. Take some time off, also, and visit or write your State Extension Director (see page 117 of this ALMANAC) and get a list of government publications (usually 15c each) which may have a bearing on your problems. From these, and other sources, there follow some helpful hints which may or may not bring you to that first and fearsome day of your role as Willie the Weed Killer.

## 1. The Lawn

Once your lawn is well established, depending on its size, you can hand dust directly from a packaged duster or mix your chemical into an ordinary watering pot; or, get a lawnmower type of spreader
or gravity flower; or hitch a bottle proportioner to your hose. Crabgrass is best caught before it grows in the Spring with (now you've got to get yoursclf down to your local hardware or garden supply store) Azak, Bandam, Dacthol or Tupersan. Once crabgrass is up, go at it with DSMA or AMA. Dandelions and plaintains, and a number of other lawn weeds-in fact any broad-leared meeds-give up the ghost with 2,4-D. Chickweed and clover go with silvex, dicamba, or mecoprop. A single application of a combination mixture ( $2,4-\mathrm{D}$ with dicamba, silvex or mecoprop) will banish most broad-leaved weeds.
a) Remember these chemicals are selective. They will select, for destruction. be it in lawns or elsewhere, those you wish destroyed, and leave the others unharmed.
b) Before you even open a can, bottle or bag, read the directions and instructions on the label and follow these exactly. Just as in the kitchen, one half teaspoonful of this or that, more or less, will ruin the recipe, so will too much of this or that chemical (or too little) defeat you as a killer.
2. Fields, Walls, Pastures, Brush, et al.

With a fire extinguisher type of shoulder-carried container holding one part, of 2,4-D and 2,4,5-T together, commercially known as "brushkiller," to 20 parts kerosene or fuel oil you can do away with most woody species. The so-called basal method soaks the base of small trees from about $12^{\prime \prime}$ up to the root collars. Another method is to notch 2 sides of the tree (leave the "chips" on) and soak the cuts, or fill with ammate crystals. Stumps can be soaked or covered with ammate crystals.
c) These killers are for plants, so unless you are suicide minded don't drink or inhale or, once you have sprayed, go around chewing grass or leaves.
d) Don't go near a brook or well or any location where your spray just might poison your water supply:
e) Keep your poisons well capped and, if possible locked up, or out of reach of your children and pets. And, your chlldren particularly, out of the sprayed areas. Do not nse any arsenical compounds or soil sterilants.
3. Poison ivy, poison oak, poison sumac, ragweed, et al.
2.4-D. $2.4-5 T$, or amitrole (often called amino-triazole), applied from a discreet distance will do away with these. Handpuling is dangerous. For many of the rashes, blisters, etc., caused by irritant plants there is no known cure. Wear gloves and ligh boots. Get somebody who knows to point out to rou the poisonous plants around your house and get rid of them all, first time around.
4. Finally, there are special applications for asparagus and strawberry beds-even for your vines, shrubs, flower and regetable gardens. As there is not space available here to give you these, we leave you to begin where we lave left off: viz., at the very beginning. iThere are weed killers, they are being used, perhaps they are for me, perliaps not, I'li think about it.)

## PLANTING HINTS

The planting table on page 52 ls at best lut rule of thumb for some-not all-locations. California-and the desert states-have, for example, their own parficular seasons. The natires know best. No matter where you live, you should discuss planting (and harvest) clates with some farmer or grower who has been on his land for at least a dozen years-and who has managcd, somehow, to produce excellent crops-ready for the table and market when they should be.

Sccond plantings, for example, if you lose the first one from a late frost, or too much or too little rain, will be in order. (Always save a little seed, just in case, from your first plantlng.)

When to pick is equally as important as when to plant. There is always the one exact day. One day earlier. or one day later, and you liave lost what should have bcen yours-the advantage of the home
grown over the "boughten."

## GROW HERBS?

Herb plants and gardens are useful, decorative, and easy to care for. Often you can borrow from or exchange with neighbors seeds, cuttings. or plants. Consult your library for the many books on herbs-you will find them a fascinating hobby. Here are a few sources you can write to for catalogs, seeds or plants.

## Caprilands Herb Farm

Coventry, Conn. (Cat. 10¢)

## Sunnybrook Farms Nursery

9448 Mayfield Rd.
Chesterfield, Ohio

## Winter Brook Gardens

North St., Medfield, Mass.
(By pers. visit only. Closed Wed.)
Cottage Herb Farm Shop
311 State, Albany, N.I.

## Greene Herb Gardens

Greene, R.I. (Mon.-Sat.)
The Herb Cottage
Washington Cathedral
Mt. St. Alban, Washington, D.C.

## Hilltop Farm

Rt. 3, Box 216, Cleveland, Texas

## Merry Gardens

1 Simonton Road
Camden, Maine (Cat. 20¢)

## Natural Sales Co.

Box 25, Pittsburgh, Pa.
Indiana Botanic Gardens
P.O. Box 5, Hammond, Ind.

## World Herb Co.

1160 N . Western Ave.
Hollywood 29, Calif.
F. W. Bolgiano \& Co.

411 New York Ave. NE
Washington, D.C.

## Carroll Gardens

Box 310, Westminster, Md.
Hav'alook Gardens
$100+5$ Grand River Ave.
Fowlerville, Mich. (Cat. 2ăc)

## Road Runner Ranch

2458 Catalina Ave., Vista, Calif.
Ferry-Morse Seed Co.
Box 200
Mountain View, Calif.

## Hart Seed Co.

Hart St., Wethersfield, Conn.

## Mail Box Seeds

2042 Encinal Are., Alameda, Calif.
T. W. Wood \& Sons

11 So. 14th St., Richmond, Và.
All the above sources are taken from the HERB BUYERS GUIDE of the HERB SOCIETY OF AMERICA, 300 Mass. Ave., Boston, Mass. This full guide is available for $10 ¢$ and a self-addressed return stamped envelope.

## KILLING FROSTS

## and

## GROWING SEASONS

Courtesy of U. S. Weather Bureau

| City | $\begin{aligned} & \text { G.S. } \\ & \text { (Days) } \end{aligned}$ | Last <br> Frost Spring | First Frost Fall |
| :---: | :---: | :---: | :---: |
| Land | 123 | May |  |
| Bismarck, N.D | 133 | May 11 | Sept. 21 |
| Alpena, Mich.. | 141 | May 13 | Oct. |
| Helena, Mont | 145 | May 7 | Sept. 29 |
| Reno, N | 145 | May 14 | Oct. |
| Marquette, Mi | 149 | May | Oct. |
| Concord, N.H. | 149 | May 7 | Oct. |
| Duluth, Minn. | 152 | May 6 | Oct. 5 |
| Green Bay, Wi Pocatello lda. | 157 | May 5 | Oct. 9 Oct. 6 |
| Denver, Colo | 160 | May 3 | Oct. 10 |
| Pierre, S. Dak | 160 | Apr. 30 | Oct. 7 |
| Minneapolis | 166 | Apr. 270 | Oct. 10 |
| Detroit, Mi | 170 | Apr. 28 | Oct. 15 |
| Des Moines, Ia | 171 | Apr. 210 | Oct. 9 |
| Fort Wayne, In | 171 | Apr. 25 | Oct. 13 |
| Ludington, Mich | 172 | May 2 | Oct. 21 |
| Albany, N.Y... | 174 | ${ }^{\text {Apr. }}$ Apr. 26 | Oct. 15 Oct. 17 |
| Santa Fe, N.M. | 177 | Apr. 25 | Oct. 19 |
| Hartford, Conn | 177 | Apr. 20 | Oct. 13 |
| Toledo, Ohio. | 179 | Apr. 22 | Oct. 18 |
| Portland, Maine | 181 | Apr. 19 | Oct. 17 |
| Spokane, Wash | 182 | Apr. 14 | Oct. 13 |
| Parkersburg | 184 | Apr. 17 | Oct. 18 |
| Omaha, N | 184 | Apr. 14 | Oct. 15 |
| Salt Lake City | 185 | Apr. 18 | Oct. 20 |
| Chicago, ill | 186 | Apr. 16 | Oct. 19 |
| St. Joseph, M | 191 | Apr. 9 | Oct. 17 |
| Trenton, | 191 | Apr. 16 | Oct. 24 |
| Springfield, Mo.. | 193 | Apr. 12 | Oct. 22 |
| Boston, Mass. | 195 | Apr. 14 | Oct. 26 |
| Wichita, Kans | 197 | Apr. 9 | Oct. 23 |
| Cincinnati, Ohio | 198 | Apr. 8 | Oct. 23 |
| Lewiston, Ida. | 201 | Apr. 6 | Oct. 24 |
| Harrisburg, Pa | 202 | Apr. 9 |  |
| Evansville | 207 | Apr. 5 | Oct. 29 |
| Richmond, | 216 | Mar. 31 | Nov. 2 |
| Roseburg, Ore | 217 | Apr. 8 | Nov. 11 |
| Oklahoma City | 218 | Mar. 30 | Nov. 3 |
| Chattanooga. | 220 | Mar. 29 | Nov. 4 |
| Raleigh, N. | 223 | Mar. 27 |  |
| Little Rock, Ark.. | 241 | Mar. 18 | Nov. 14 |
| El Paso, Tex | 242 | Mar. 19 | Nov. 16 |
| Tucson, Ariz | ${ }_{245}^{243}$ | Mar. 11 | $\stackrel{\text { Nov. } 9}{\text { Nov. }} 14$ |
| Macon, Ga | 245 246 | Mar. 14 | Nov. 14 <br> Nov. 18 |
| Montgomery, Ala... | 250 | Mar. 8 | Nov. 13 |
| Shreveport, La.. | 251 | Mar. 6 | Nov. 12 |
| Portland, Ore | 251 | Mar. 15 | Nov. 21 |
| San Bernardino | 259 | Mar. 8 | Nov. 22 |
| Eureka, Calif. | 277 | Mar. 16 | 6 Dec. 18 |
| Del Rio, Tex. | 277 | Feb. 23 | Nov. 27 |
| Sacramen <br> Phoenix, | 296 | Feb. 10 | ${ }^{\text {D }}$ Dec. 3 |
| Yum | 334 | Jan. 20 | Dec. 20 |
| San Francisco | 350 | Jan. ${ }^{13}$ | 3 Dec. 29 |

## PART TWO

## Secrets of the Zodiac \& 招amets

(Being the interpretation, astrologic, and just for fun, Of all serious scientific data in Part One.)

## FAMOUS DEBOWELLED MAN of the SIGNS

$T$ Aries, head. ARI Mar. 21-Apr. 19
8 Taurus, neck. TAU Apr. 20-May 20
ㅁ Gemini, arms. G'M May 21-June 20
5 Cancer, breast. CNC June 21-July 22
$\Omega$ Leo, heart. leo July 23-Aug. 22
in Virgo, belly. vir Aug. 23-Sept. 22
$\bumpeq$ Libra, reins. Lib Sept. 23-Oct. 22
M Scorpio, secrets. sco Oct. 23-Nov. 21
I Sagittarius, thighs. sGr Nov. 22-Dec. 21
v) Capricornus, knees. cap Dec. 22-Jan. 19

* Aquarius, legs. AQR Jan. 20-Feb. 18
) Pisces, feet. Psc
Feb, 19-Mar. 20


Man of the Signs used by Abe Weatherwise, 1784
These signs, abbreviated, appear for each day on pagcs 24-26. Their meaning is given on pages 56-59. The illustrations, pages 57-59, are the actual patterns as seen in the sky by the ancients (see Hygini, Augusti Liberti, 1570).

The aneients believed (but we do not) that from the knowledge of the location of each planet in the heavens at the exaet hour of one's birth one can foresee what kind of a life a child will lave, what are the childs inclinations, and what sort of edueation will best serre the child. The heavens (called the Zodiae) were divided into 12 sections (ealled Signs) of about 30 days eacli. There follow on the next three pages brief resumes of the (ancient) meanings of eaeh Sign by which the lives of those born within the period shown are governed. Those using the meanings of these signs for themselves should also he guided by the Sign for each day of the year which appears in the next to the last eolumn on pages of throngh 46 . For example if you were born on February 12, your ruling Sign is always Aunarius but on February 12 (see Page 26) each year the Moon's Place will probably be in some other sign. Thus each year you will he "under the influence of" the sign shown here as well as the one given for your birthday on pages $24-46$. You should "go by" the sign given here.

The birthstones given under each sign cover respeetively, in the order given, the two monthly periods under each sign.

Atso please remember that where the following letters appear under the Signs on pages $57-59$ they indicate the best times for

A Cutting grass or brush, weeding.
F Cutting and setting posts or timbers.
C Cutting lay, pruning.
D Planting above ground erops.
E Planting root erops, house painting.
F Harvesting erops or herbs.
G Breeding, setting hens, ereatinge, baking.

H Weaning.
I Slaughtering.
$J$ Operations, pulling teeth.
K Hairdos. sleep shearing, buying elothes.
L Business, gambling, taking risks.
M Fishing.
N Travel, marriage, romanee.

## ARIES

## ABBR: "ARI"

SIGN: LAMB
Controls the head and face
Belongs to those born Mar. 21-Apr. 19
Ruling Planet, Mars; Birthstone
Jasper, Bloodstone, (Aquamarine) ;
Colors, Red, Green.
Best for D, L, G, F, I.


In Aries this year there is trouble,
Perhaps the breaking of a financial bubble.
Run, don't walk-far away
From any deep involvement, so we say.


## TAURUS

ABBR: "TAU"
SIGN: BULL Controls the throat and neck
Belongs to those born Apr. 20-May 20
Ruling Planet, Venus; Birthstone Diamond, Sapphire; Color, Blue. Best for E, K, B, I, F, G.

Why is Taurus the Bull
No good except after the moon is full? Minst mean that in 1968 All Tanrians 'til after the full should wait.

## GEMINI

## ABBR: "G'M"

SIGN: TWINS
Controls shoulders, lungs, arms, hands, and the nervous system.
Belongs to those born May 21 -June 20 Ruling Planet, Mercury; Birthstone, Emerald; Color, Green.

Best for J, G, L, A, I, F.
These Twins are never cold:
 They are hot, fierce, strangely bold. In '68 of fevers they should beware, Especially of any off-beat love affair.


## CANCER

## ABBR: "CNC" <br> SIGN: CRAB <br> Controls breast and stomach Belongs to those born June 21-July 22 <br> Ruling Planet, Moon; Birthstone, Agate, (Pearl, Alexandrite, Moonstone) Color, Blends.

Best for D, M, K, G, I, A, C.
Cancer for some is a horrid word, But here its meaning is absurd. It says this year you'll find the action Way up north in a polar "eraption."

## LEO

ABBR: "LEO" SIGN: LION
Controls the heart
Belongs to those born July 23-Aug. 22
Ruling Planet, Sun; Birthstone,
Turquoise, (Ruby); Color, Blue-Red.
Best for K, B, A, F, N.


Leo the Lion this year brings luck:
For your winnings you'll need a truck, At the races or in shares of gold.
Now don't ever say you were not told.


## VIRGO

ABBR: "YIR" SIGN: VIRGIN
Controls the lower intestines Belongs to those born Aug. 23-Sept. 22 Ruling Planet, Mercury; Birthstone, Carnelian. (Peridot, Sardonyx) ; Colors, Red-Brown, Green-Yellow.

Best for J, K, L, A, I, F.
Of Virgo we take care how we talk Or she'll just take a huffy walk. But listen all you dolls and guys: The American League is in for a surprise.

## LIBRA

ABBR: "LIB" SIGN: SCALES Controls the loins
Bclongs to those born Sept. 23-Oct. 22 Ruling Planet, Venus; Birthstone, Chrysolite, (Sapphire); Colors, Green-Blue.
Best for D, N, K, G, I.


Now comes Libra and cool Fall days
With the Giants, as usual, just out of plays.
But, take heart, and be real smart :
Buy land, or a house, in whole or in part.


## SCORPIO

## ABBR: "SCO" SIGN: SCORPION

 Controls the generatire organs Belongs to those born Oct. 23-Nov. 21 Ruling Planet, Mars: Birthstone, Leryl, (Opal, Tourmaline); Color, Blends.Best for M, $\mathrm{G}_{\mathbf{4}} \mathrm{I}_{1} \mathbf{A}$.

> This year the drums are beating,
> Election time neans real unseating.
> The pros will goout, the cons will ine in,
> Vote right or youll be a real "has been."

## SAGITTARIUS

ABBR: "SGR" SIGN: ARCHER
Controls the thighs
Belongs to those born Nov. 22-Dec. 21 Ruling Planet, Jupiter; Birthstone, Topaz; Color, Gold.
Best for J, N, K, F, I, H.


Take care, Saggy, this year is bare : You can't do nothing without a real flair. Of trips, marriage, and gossip beware: At fancy romances you must only stare.


## CAPRICORNUS

ABBR: "CAP" SIGN: GOAT
Controls the knees
Belongs to those born Dec. 22-Jan. 19
Ruling Planet, Saturn; Birthstone, Ruby, (Turquoise, Zircon); Colors, Red-Blue-Green.

Best for J, G, I, H.
An odd beast is the Capricorn;
At one time he only had one horn.
No hippo him or guzzler of gin:
This year he's a regular Rin-Tin-Tin.

## AQUARIUS

ABBR: "AQR" SIGN: WATER BOY Controls the legs Belongs to those born Jan. 20-Feb. 18 Ruling Planet, Uranus; Birthstone, Garnet; Color, Dark Red.
Best for D, K, B, I, H, A.

At the frozen fountain stands the boy; No water, no juice, just a ridiculous toy. But man, a thaw, early or late, Brings real good news for him in '68.


## PISCES

## ABBR: "PSC"

SIGN: FISH
Controls the feet
Belongs to those born Feb. 19-Mar. 20 Ruling Planet, Neptune; Birthstone, Amethyst; Color, Purple.
Best for D, M, B, G, I, H, C.
The "poor fish" in this sign born
Have hearts of gold-with love are torn.
This year luck comes with anything "ever"
Like Forever, Never, Lever, or However.

A summary of developments in various fields of endeavor of presumable interest to lay readers. Sources (available on request) are scientific journals published from May 1966 through April 1967.

## THE CYBERNETIC REVOLUTION

Cybernation, now hard upon us, is the complete adaptation of computer-like equipment to our industrial. economic. and social activities. In the opinion of Dr. Seaborg, Chairman of the Atomic Energy Commlssion, this will give us new freedom "and yet responsibilities which, if not acted upon, could result in the loss of almost all freedom."

For example, the procedure for renting a car will soon be that of placing a credlt card in a slot. This card contains your bank account number and fingerprints in microform. You place the fingers of your free hand over a flat plate. The computer identifies you as to credit, etc., and hands you a key which will record your mileage as well as your time use of the car. If you exceed the speed limit, it is recorded by a hidden device which turns you in, fines you, and deducts the fine from your bank account. And, too, your story about who was with you in that car and where you went better be stralghtbecause wifey will have known all about that even before you have told her. Similarly, trips to local doctors will soon become trips to local centers where compnter antomation will do all-your doctor won't even see you unless you've got something that has never heen on tape. Net result: depersonalization, separation of man from prodnct, reduction of work, shifts of needs and skills. With computer capability now a million mathematical operations per second, mankind will probably have to come to abandonment of work "central to existence." We will have to turn our education from "work to live" goals to "live to loaf or create" goals. In brief, a huge revolution of our goals and values is now in order-tomorrow may be too late.

## HIGH SPEED TRANSPORTATION

hy rail up to main line speed of 300 miles per hour is expected in the next 10 or 15 years. Presently, the first of the new projects is being tested between New York and Washington, D. C.

## PRESERVATION OF FOODS BY RADIATION

has progressed slower than some had hoped. This far, FDA has approved only treatment of white potatoes to lnlibit sprouting, wheat and flour for de-intestatlon, and bacon. None of them is availahle to the American consmmer nor will others be untll the FDA gives the word. This may take months or years. Reason: radiation affects genes -its effects can be studied only through many generations.

## FLUIDICS

are beginning to take over a share of the electronic work load. Fluidies nse air instead of electrons, channels instead of vacuum tubes. As fluidics, however, cannot transmit a signal for any considerable distance, their application will be mostly in automated control.

## CRYONIC RESURRECTION

some years lience is planned for the late Dr. J. H. Bedford. At death Heparin was injccted into his veins, a mechanical heart employed. His body was then frozen in dry lce and transferred to a "cryo-capsule." Candidates for this kind of inmortality must provide $\$ 10,000$ in advance.

## THE BREEDER REACTORS

probably available in the 1980s will produce more nuclear fuel than they burn while producing electricity. Fuel shortage in America is something of the past-it will never happen. Right now power plants are converting from coal and other fuels to atomic energy. It is more economical. The reactors and the computers are the babies to watch.

## ELECTRIC AUTOMOBILES

for reasons of non-pollution of the air were in the news in 1967. However, since an electric car runs out of power after about 50 miles, it is not as yet considered competitive or practical.

## THE MICRO-TRANSPARENCY

recently developed by National Cash Register Company provides for the publishing of up to 3200 pages on a $4^{\prime \prime} x 6^{\prime \prime}$ space. One transparency contains the complete works of Shakespeare. Eight transparencies contain a whole encyclopedia. Schools rent projectors for these transparencies at $\$ 10$ per month.

## SUICIDES IN PHILADELPHIA

are seen to be $30 \%$ above normal whenever barometric pressure changes by 0.35 inches or more.

## THE WAGGLE OF THE NORTH POLE

has now been determined as a path down the western slde of the Pacific at the rate of 7,000 miles in 450 million years, or $1 / 4$ of one degree per million years.

## THE RUSSIANS ARE DRILLING

no less than five holes some 10 miles deep into the earth. At least one is probably now deeper than the deepest Uncle Sam ever dug ( 4.8 miles in Texas). In March of 1967 it was down 4 miles. Mohole, America's greatest scientific project, got down only 560 feet before squabbling and bickering set in about who had the contract. Congress failed to renew its appropriation last year.

## DESALTING PLANTS

and plans. along with the construction of the world's largest facility at Los Angeles, are going ahead great guns. A stndy for a new plant in Greece revealed that for $\$ 68$ million water could be had from the sea for $33 \phi$ per 1,000 gallons-and, as a bonus, electric power worth t. 4 mills ner kilowatt. Desalting was also given serious consideration to alleviate the late and unlamented drought in New York and New Jersey.

## VOICEPRINT IDENTIFICATION

Bell Telephone Labs has developed a new system of identifying people by their voices. The cue words are: the, to, and, me, on, is, rou, I, it, and a. By the manner in which an individual pronounces these words lie can be individualized in the same way finger prints do this. And, if a criminal, tracked down.

## ORIGIN OF METEORITES

It has been thought that stone meteorites came from the moon, iron ones from the astroidal belt. It is now suggested both came from the latter.

## NAVIGATION BY SATELLITE

Experiments for nine months in the Atlantic and Pacific and Western oceans aboard the Robert D. Conrad indicate the U. S. Navy's satellite navigation system is accurate, reliable, and easily operated. It will be helpful under all weather conditions over a large part of the earth's surface.

## SURFACE OF THE MOON

A United States and a Soviet selenologist agree the moon's surface is "quite solid, or a sponge-like, rough-textured mass scattered with sharp-edged fragments." Others'believe it is cemented dust. However, these findings are not as yet confirmed by other than photographic hypotheses. At this writing, a U. S. satellife is there with a shovel.

Surveyor 3, as of April 22, 1967, indicates the moon's surface "looks and behaves much like damp and coarse beach sand. It is firm enough to support great weights but soft enough for easy digging."

## THE CHEPHREN PYRAMID

at Gizen is about to be X-rayed to determine whether or not it has any undiscovered burial parlors within its mass of stone. Cosmic Ray Detector techniques are being used.

## GLOBAL CIRCULATION OF NUCLEAR DEBRIS

The Chinese nuclear device exploded (May 14, 1965) debris aronnd the world. Check points at Tokyo and Fayetteville, Arkansas measured sharp peaks in debris content of rain at Tokyo May 20, at Fayetteville May 26.

## AUTOMATED SPACE CRAFT

Of 94 spacecraft launched up to January 1967. St have performed successfully. Of the 10 failures, 5 have been Fully Stabilized Lunar Probe craft, 3 have been Fully Stabilized Satellites. These vehicles are the most effective tools for exploration, probing unknowu regions, and continuous monitoring.

## WATER RECOVERY TECHNIQUES

from space craft are being used to see if potable water can be recovered from wash water, urine, and condensate. The system is 30 inches, by 22 by 30 -and could presumably supply two men with drinking water during a 30 -day mission. Recovery rate is $3 / 4$ pound of water per hour.

## MANNED SPACE STATIONS

The Saturn V, designed to launch Apollo vehicles to the moon, has a capability of placing an 100 -ton space relicle luto space. It is thought that several large observatories-such as those now at the South Pole-should be launched, fully staffed, for continuous operation over periods of 2 to 3 years. The crews would number 6 to 9 men. The scientific knowledge gaiued from these observatories should justify their cost.

## SOLAR SYSTEM EXPLORATION

in the 1970 s may expose Jupiter, Mercury, and the Sun to close-up inspection. This will be done with conventional multi-stage rocket systems.

## HOW HOT IS VENUS?

What with the Mariner 2 Satellite sailing by Venus, and various radiometric measurements, it is now open to question whether or not her surface temperature is, as has been thought, higher than that of the Earth. More will be known once her cool cloud cover has been penetrated.

## GENEALOGY OF THE GULF OF MAINE

In late Tertiary time, when the Alps and Himalayas were formed, this Gulf was a smooth shelf sloping towards the sea. During one of the Pleistocene glacial ages the area may have been exposed by a lowering of the level of the sea. Streams eroded a lowland. Glacial erosion deepened and widened the gulf. It was freed of ice about 11,000 years ago and various forces formed sand ridges on Georges Bank and at Nantucket Shoals.

## COMMERCIAL CLOUD SEEDING

Ten seasous (1955-64) at various control stations in Santa Clara, California compared with ten seasons (1945-54) at the same location, reveal that the former, aided by commercial cloud seeders, show a net increase in precipitation. The seeders apparently were most effective down wind and in locations where rain was almost ready for release.

## SCIENCE DOTH PROGRESS

At last count there were 620 dlfferent branches of science listed by the National Science Foundation. In the U.S.A. alone about 300,000 science articles are being published each year in some 6,000 different technical journals. On a worldwide basis, 35,000 journals publish two million articles by 70,000 scientists in 50 languages. In 50 y ears these figures will multiply 10 times or more.

## JET FLIGHT SAFETY

What with the advent of aircraft carrying 500 to 1000 passengers; the statistical basis of "fatalities, per hundred-million passenger miles" or "per million hours of fight" is being questioned. The evidence, according to N. E. Rowe, suggests that although accidents and fatalities have been falling by present measurement, the statistic is misleading. Fatalities, per accident, with scheduled jet transports, for example, now show a sharply rising trend. Worldwide the risk is slight in flight, but notably higher than by rail or bus. Most of the fatal accidents occur during takeoff, climb, approach, and landing. Rowe suggests a far more realistic criteria would be "accidents per flight" and "fatal accidents per flight." These criteria would, despite a less favorable report than the ones now used (people are going. to fly regardless), greatly encourage a desire on the part of manufacturers, airlines, the public, etc., for increasing attention to safety factors.

## NOISE

In the last 15 years, industry has paid out no less than $\$ 15$ millon in loss-of-hearing suits. Noises from such obvious sources as sonic booms, traffic, sirens, riveting, combined with those of the vacuun cleaner, vent fan, and other household disturbances are due cause of psychological trauma manifested by ulcers, colitis, headache, and intestinal disturbances - and, over a period of several months or years, physiological noise deafness. Some progress is noted in the development of silencers, mufflers, and legislation.

## SEA EYES

The weather bureau, army engineers, fishermen, etc., are now on parade for more ocean buoys. There is a scientific need. the world over, for constant accurate reports on weather, tides, storms, fish migration - which ships do not provide. Expense is a problem, but mooring as well as buoy activation machinery are others as yet unsolved. Some thought is being given to buoys that rest on the bottom - to rise only occasionally at given observation times; to almost weightless mooring lines (and buoys) ; to atomic power rather than batteries; and to size (they run all the way from two to 40 feet across, from 10 to 450 feet in depth).


Man's present struggles, to make all his electrical inventions work compatibly and not interfere with each other, have required science to uncover more and more of the electrical secrets of nature. In so doing, man is discovering why he likes to sing in the shower; how he can control insects and pests; how he can operate instruments directly by human thought; and why he, himself, is a mobile electrical instrument, like a radio-walkie-talkie, who can not only receive the electrical sifnals sent out by nature and man but also can do a pretty good job of sending out his own. In other words, man is finding that he constitutes an electrical compatibility problem along with his instruments.

Probably one of the most important discoveries made by science is the Principle of Resonance Absorption which, in non-technical terms, means that everything in nature can absorb one or more electrical frequencies or be affected by them. This has opened a Pandora's box of research possibilities of which science is now taking full adrantage.

The scientists at Stanford Research Institute in Californla, for example, wanted to find out why people seemed to feel better and be morc cheerful when near a waterfall, after a sudden rain, or in a bathroom shower. They soon found that running water created electrical currents which produced negative ions which, in turn, had a stimulating effect on man and made the more vocal, ones want to express themselves. One time, howerer, when they left their test equipment on in a bathroom, thes were puzzled to find the meter jumping around with no water running. On investigation, it was discorered that a girl was brushing her hair and thereby also creating negatlve ions - a phenomena which is now being explored further by imaginative members of the falr sex.
The U.S. Department of Agriculture has, in its efforts to find wars of controlingrinsects and pests, with other than the use of chemleals, discovered that electrical energy in different parts of the spectrum can be used effectively. In the infra-red part of the spectrmm, a "window" was discovered through which heat or infra-red rays conld be seen long distances. Nature was then found to be making use of this window to help certain insects propagate, especially the nightflying lepidoptera species. The female noth had learned that, when the time came for mating, she could attract the male by flying high and increasing her wing movements which, in turn, raised her hody temperature so that it conld be seen from long distances. The males were thus attracted and the species was propagated. But the unromantle scieutists of the Department of Agriculture caught on to this phenomena and built instruments which could duplicate the visibility of the female moth, and put them up on poles the nlght before the females planned to fly. These attracted the males, who were done away with and, when the females rose the next nlght in all expectation, they were sadly disappointed. It, eventually, exterminated the insect specie but saved the farmer's crops.
A reverse technlque, also used hy the Department of Agriculture, was to breed and exposc males to $X$ and gamma rays which made
them impotent. They were then released at mating time and failed to fertilize the eggs of the female. Such breeds as the screwworm, Callitroga hominivorax, and the melonfly, Dacus cucurbital, were also exterminated in certain areas by this method.

As man has increased the speeds at which he travels, he has presented himself with two problems. One is the quicker time in which he has to operate the controls of his machines and the other is the force of gravity which will render him physically helpless if he has to turn too sharply. The first often requires quicker action than is possible by manual means and the other tends to prevent any action at all. To solve these two, scientists have found that they can take the mental command to push a certain button off the surface of a man's skin and translate it into an electrical pulse. Thus, if a button is to be pushed, or a control is to be moved, the mental command can be amplified electrically and an instrument made to do the job for lim. The Air Force has been experimenting with this for several years in order to help fighter pilots, at the tremendous speeds at which they fly, keep complete control of their planes. It is also being tried with astronauts who may have to change the orbits of their capsules. Doctors are also experimenting with this phenomena to perinit people who have lost arms or legs, or who may be paralyzed, to operate artificial limbs as they would have done with their own. Where man's electrical energy has become too weak to perform a needed funetion, science is now building substitute electrical controls, such as the pacemaker for the heart, which will permit man to live normally. Man has to be careful, however, not to go too near other sources of electrical energy, such as power lines and other radiating sources, as the signals are apt to get a little mixed and the man may behave erratically.

Man's ability to create electrical energy, hinself, and to radiate electrical signals, it has been found, is not always desirable because he is now otten interfering with his own work and with the instruments he is supposed to operate, and, unfortunately, the situation is getting worse as time goes on.

The development of what is known as microminiaturization of electrical circuitry, where a whole radio receiver, for example, can be huilt on the head of a pin, requires sensitive electrical components which can be affected by slight electrical charges. As a result, it has been found necessary to have the workers on these circuits thoroughly grounded at the wrists in order not to permit the static charges, which are built up on their bodies by even the movements in their chairs, to get into the components. There are also certain people who have stronger magnetic fields around their bodies than others, and these have often been found to affect the delicate instruments which they try to operate. This is an extension of the techniques which have had to be used in hospital operating rooms for many years in order to prevent sparks from igniting the explosive gases used to anestluetize patients, which calls for personnel to wear only certain kinds of clothes, stand on conductive floors while wearing conductive shoes, and have grounding bars which they can frequently touch to discharge any build-up of static on their bodies. It is also being found to apply to computers, which have microminiaturized circuits that can pive strange answers if maintenance personnel are not properly grounded.

Doctors and biologists, however, are beginning to worry a little about how modern lite is increasing the isolation of man from his normal environments and from his normal activities, becanse they are finding that man needs some of the electrical energies put out ly the sun, moon, and from nature herself. With man being forced to live in air-conditioned buildings, in underground facilities, in underwater ships, such as submarines, and now in the air, and thus deprived of the full benefit of these stimulants, it is being found that his general mental and physical condition is sometimes affected. Industry has made several attempts to supply these deficiencies, such as providing negative ion generators: positive electrical fields: changes in humidity, atmospheric pressures, and other natural conditions; but they have fallen short of properly duplicating nature.

As science learns more and more about both nature's and man's use of the electromagnetic spectrum, some may wonder whether or not man's indiscriminate use of the spectrum might not be inadvertently upsetting some of the balances of nature. If it is ever discovered that sclence can manipulate human love as effectively as it can insect love, it can be assuredly prophesied that there is possibly a coming era when the human female will dominate in the study of electromagnetic compatibility.

## FISH AND GAME SUMMARY

（Format copyrighted－must not be copied．）
Based on latest（mostly 1966－67）available laws courtesy of State Fish \＆Game Commissioners． For the most part 1968 laws not released until after press date（June，1967）and so no attempt is made here at accuracy；in fact，only approximations of the months which may include seasons are given．This table useful only for vacation planning considerations and to satisfy curiosity as to what the various states offer in the way of hunting and fishing．Migratory Bird Regulations are available at any post office．

EXACT DATES，LIMITS，ETC．MUST BE VERIFIED LOCALLY．

|  |  |  | $\begin{gathered} \text { 䛼 } \\ \text { 号 } \end{gathered}$ |  | 咨 | 尝 |  | $\begin{aligned} & 5 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\sim}{\text { En }}$ | $\begin{aligned} & \text { z } \\ & 8 \\ & 8 \\ & 0 \\ & \text { B } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama |  | C | 11－1 |  |  | 11－2 | 11－2 | 10－2 | 10－2 | 10－2 | 10－1 |
| Alaska． |  | 0 | 8－9 | 8－12 | 8－12 | 11－1 | 11－6 |  | 0 | 0 | 0 |
| Arizona | 9 | 4，9－1 | 9－12 | 12 | 9－11 | 0 | 0 | 0 | 0 | 0 | 9－11 |
| Arkansas |  |  | 10－1 |  |  | 11－1 |  | 11－1 | 11－1 | 11－1 | $9-1$ |
| California | C | 9－12 | 8－11 | C | C | 11－2 | 11－3 | 0 | 9－1 | 0 | 10－12 |
| Colorado． | P9 | 4－10 | 9－12 | P8， 11 | 10－11 | 11－1 | 11－4 | 0 | 9－2 | 0 |  |
| Connecticut |  |  | 11－12 |  |  | C | C |  | 10－1 | 9－1 | 10－1 |
| Delaware |  |  | 11 |  |  | 12－3 | 12－3 | 11－1 | 11－12 | 11－1 | 9－10 |
| Florida． |  | 11－1 | 11－1 |  |  |  |  |  |  | 0 | 11－1 |
| Georgia |  | 11－1 | 10－1 |  |  | 11－2 | 11－2 | 10－2 | 11－2 | 10－2 | 10－2 |
| Hawaii | S | X | S | 0 | X | X | X | X | X | X | X |
| Idaho． | S | 0 | 9－12 | 9 | 9－12 | 11－12 | 11－12 |  | 9－2 | 0 | C |
| Illinois． |  |  | 11，12P |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 11－1 | 8－10 |
| Indiana |  |  | 11－12 |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 11－1 | 8－10 |
| Iowa ． |  |  | S |  |  | 11 | 11－1 | 11－2 | $9-2$ | 10－2 | 9－12 |
| Kansas． | C |  | P12 |  |  | 12－1 | 12－1 | 12－1 | 12－10 | 0 | 8－12 |
| Kentucky |  |  | 11 |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 10 | 11－12 |
| Louisiana． |  |  | 11－1 |  |  |  |  |  | 10－2 |  | 10－1 |
| Maine．．． |  | 6－12 | 10－12 |  |  | 11 | 11 |  | 10－3 | 8－12 | 10－11 |
| Maryland． |  | C | 9－12 |  |  | 11－3 | 11－3 | 9－3 | 11－1 | 9－3 | 10－11 |
| Mass． |  |  |  |  |  |  |  |  |  |  |  |
| Michigan． |  |  | 10－12 |  | C | $10-1$ | 10－1 | 0 | 10－2 | 10－12 | 10－11 |
| Minnesota |  | $\mathrm{O}_{\mathrm{C}} \mathrm{S}$ | 111 |  |  | 11－12 | $11-12$ |  | 10－2 | 10－12 | 10－12 |
| Mississippi |  |  | 11－1 |  |  | 12－1 | 12－2 | 12－1 | 10－2 | 11－1 | 10－1 |
| Montana | 10－11 | 10－11 | 10－11 | 9－11 | 10－11 | C | X | $\stackrel{11-1}{X}$ | －0 | $11-1$ 0 | 5－12 |
| Nebraska | 9 |  | 11 |  |  | 11－1 | 11－3 | 0 | 0 | 0 | $9-1$ |
| Nevada． | 8－9 |  | 10－11 | 12 | 10－11 | 11－3 | 11－3 |  | 10 |  |  |
| New Hampshire |  | 9－12 | 11－12 |  |  | 10－2 | 10－2 |  | 10－3 | 8－12 | 10 |
| New Jersey．．．．． |  | 12 | 12 |  |  | 12 | 11－12 |  | 11－12 | 11－12 | 11－12 |
| New Mexico．．．． | 9－10 | 8－11 | 10－12 | S | 10－12 | 12 | 11－4 |  | 0 | 0 | 0 |
| New York．．．．． |  | 11－12 | 11－12 |  |  | 10－3 | 10－4 | 0 | 10－2 | 10－3 | 10－12 |
| Long Island． |  | C | C |  |  | 1－3 | 1－3 | 0 | 11－1 | 11－2 | 11－12 |
| North Carolina． |  | 10－12 | 10－12 |  |  | 11－2 | 11－2 | 11－2 | 11－2 | 11－2 | 10－12 |
| N．Dakota ．．．． | 8－12 |  | 8－12 | C | C | 11－12 | 11－12 | X | 0 | 0 | 9－12 |
| Ohio．．． |  | C | 11 |  |  | 11－2 | 11－2 | 11－2 | 11－1 | 11－2 | 9－12 |
| Oklahoma | P8 |  | 11 |  | 11 | 12－1 | 12－1 | 12－1 | $9-2$ | 12－1 | 5－12 |
| Oregon． | P8 | 0 | 10 | P | 10－11 | 11－1 | 11－2 | 0 | 0 | 0 | 10 |
| Pennsylvania． |  | 11 | 10－1 |  | C | 11－1 | 11－3 | 0 | 10－1 | 0 | 10－1 |
| Phode Island．． |  |  | 12 |  |  |  |  |  | 11－1 | 10－1 | 11－12 |
| South Carolina |  | C | 9－12 |  |  | S | S | S | S | S | S |
| South Dakota | 9 | X | 11 | C | S | 11－12 | 11－12 | 11－4 | S | 0 | 0 |
| Tennessee． | X | 10 | 11－12 | X | X | 10－2 | 12－2 | 10－2 | 11－2 | 10－2 | 9－12 |
| Texas | $9-10$ | 11－12 | 11－12 | C | 12 | 11－1 | 11－3 | 0 | 0 | 0 | S |
| Utah．．． | P | 11－9 | 10－11 | C | P | $10-5$ | 0 | X | 10－3 | $\mathbf{X}$ | 0 |
| Vermont |  | 9－11 | 11 |  |  | 10－2 | 10－4 | 0 | 10－2 | 8－12 | 10 |
| Virginia．．．． | C | $11-12$ 0 | $\xrightarrow{11 \mathrm{~S}}$ |  | C | 12－1 | $\mathrm{C}^{\text {c }}$ | 10－1 | 11－1 | 10－3 | $9-10$ |
| West Virginia． | C | 11，12 | 10－11 | 9 | 11 | 11－1 | 11－3 | 0 | 10－2 | 0 | C |
| Wisconsin． |  | $9-11$ | 9－12 |  |  | 10－1 | 11－12 | 11－12 | $10-1$ | 10－1 | 10－1 |
| Wyoming．． | 9－11 | 4－6，9－11 | 9－11 | 9－11 | 9－11 | 11－5P | 0 | 1 | 19－4 | 0 | 0 |

## SPECIALS IN CERTAIN STATES：

ALLIGATOR：Ala．（C），Fla．（6－1）；Miss．（C）－BUFFALO：Alas（S），Ariz．（10）；Minn．（O）， S．D．（O），Utah（ P ），Tex．（C）－CARIBOU：Alas．（0）－COUGAR：Nev．（0）－IBEX，KUDU， GEMSBOCK：N．Mex．（C）CHACHALACA：Tex．（12－1）－JAVELINA：Ariz．（2－3）， N．Mex．（2），Tex．（11－12）－MOOSE：Alas．（8－12），Ida．（P），Mont．（9－11），Utah（P）；Wyo． （9－10）－WILD BOAR：Cal．（10－3），Fla．（S），Haw．（0），N．C．（10－12），Tenn．（10），Tex．（10）．

## SYMBOLS USED PAGES 66 AND 67

Months：January is represented by the numeral＂1＂－February by the numeral＂ 2 ＂；etc． Seasons：In the columns under the various animals，birds，and fishes you will note numerals．Thus ＂12－3＂means the season opens in December and closes in March．A number alone means the season opens and closes within that month．Thus＂ 12 ＂alone means the season is December． A number followed by a comma denotes two seasons：thus＂ 9,12 ＂would mean one September and another in December．＂ O ＂means no closed season；＂ X ＂not available；＂ S ＂special sea－ sons；＂C＂closed；＂P＂permit only．

VERIFY EXACT OPENING \＆CLOSING DATES IN EVERY CASE．

|  | $\begin{aligned} & \text { E } \\ & \text { 岩 } \\ & \text { 奩 } \end{aligned}$ | 念 |  |  |  |  |  | $\sum_{\substack{3 \\ 心}}^{\substack{3}}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 11－2 | 11， 3 | Alabama | 0 | 0 | 0 | 0 | 0 | 0 | O |
| －5 |  |  |  | Alaska． | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9－1 | C | 10－1 | 4， 10 | Arizona | 0 | 0 | 0 | 0 | 0 | 0 | X |
| C | C | 12 | 4 | Arkansas | 0 | 0 | 0 |  |  |  |  |
| 9，10－1 | 11－12 | 11－12 | C | California | 0 | 0 | 0 | 2－11 | 4－10 | 4－10 | 4－10 |
| $\bigcirc$ | 11－12 | 11－12 |  | Colorado． | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10－12 | 10－12 | 10 | C | Connecticut． | 4－2 | 0 | 4－2 | 4－2 | 4－10 | 4－10 |  |
| 10－12 | 11－12 | 11－12 |  | Delaware | 0 | 0 | 0 | $\bigcirc$ | 4－11 | 0 | 0 |
|  |  | 11－1 | 11－1 | Florida． | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 10－2 |  | 11－2 | 11－2 | Georgia | 0 | 0 | $\bigcirc$ | C | 4－10 | $\stackrel{+}{0}$ |  |
| 11－1 | 11－1 | 11－1 | C | Hawaii | 0 | O－X－O－X | X | X | X | X | X |
| 9－12 | 10－12 | 9－12 | S | Idaho． | 0 | 0 | X | S | 6－10 | 4－11 | 0 |
| 11－12C | 11－12 | 11－12 | C | Illinois． | 0 | 0 | 5－11 | 0 | 0 | 0 | 0 |
| 11－12 | 11－12 | 11－12 | C | Indiana | 0 | 0 | 0 | 0 | 5－8 | 0 | 0 |
| 11－12 | 11－12 | 11－12 |  | Iowa． | 0 | 0 | 5－2 |  | 0 |  |  |
| 11 | 11－12 | 11－12 | C | Kansas | 0 | 0 | 0 |  |  |  |  |
| 12－1 |  | 11－1 |  | Kentucky | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 11－2 | 4 | Louisiana | O | － | ${ }_{4}^{0}$ |  |  |  |  |
| 10－11 | 10－11 |  |  | Maine．．． | $6-9$ 0 | $4-9$ 0 | $4-9$ 0 | ${ }_{0}^{4-9}$ | $4-9$ $4-3$ | 4－9 | $\stackrel{4-9}{0}$ |
| 11－1 | 11－1 | 11－1 | 10－11 | Maryland．．．．．． Massachusetts． | － | － | － | －${ }_{4-10}$ | 4－3 | 4－3 | － |
| 10－11 | 10－11 | 10－11 | C | Massachusetts． | $\stackrel{4}{4-2}$ | $4-2$ 0 | 4－2 | 8－10 | 4－2 | 4－10 | $\xrightarrow{\text { ¢－9 }}$ |
| 10－12 | 10－11 | 11 | $\stackrel{\text { S }}{ }$ | Michigan． | $\left\lvert\, \begin{aligned} & 6-12 \\ & 5-2\end{aligned}\right.$ | O | 5－3 | ${ }_{\text {8－9 }}^{\text {X }}$ | $4-9$ $4-9$ | 1－9 | ${ }^{4-9}$ |
| 10－11 | 10－11 | ${ }_{12-2}^{\text {C }}$ | C 4 | Minnesota Mississippi | ${ }_{5}^{5-2}$ | 0 0 0 | 5－2 | X 0 | ${ }_{\text {4－9 }}^{0}$ | 1－9 | O |
|  | 11－12 | 12－2 | 4 | Mississippi <br> Missouri． | 5－2 | 0 | 0 |  |  |  |  |
| 9－10 | 10－11 | X | 9，10，4，5 | Montana． | 0 | 0 | 0 | 5－11 | 5－11 | 5－11 | S |
| 9－10 | 11－1 | 11－1 | －4，10 | Nebraska | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 11 | 11 | 10－11 | Nevada．． | 0 | 0 | ¢ | S | 0 | 0 | 0 |
| 10－12 | 10 | 10 |  | New Hampshire | 4－10 | 0 | 0 | C3－9 | ${ }_{\text {C3－4 }}^{4-9}$ | C3－4 | 1－9 |
| 11－1 | 11－12 | 11－2 | ${ }^{\text {C }}$ | New Jersey．． |  | 0 0 | $\stackrel{\mathrm{O}}{0} \mathrm{X}$ | C3－4 | C3－4 | C3－4 | － |
| 9 | 11－12 | 11－1 | 10－11 | New Mexico | O | O | O－X | X ${ }_{4-9}$ | $5-11$ $4-9$ | ¢ | －${ }_{\text {4－9 }}$ |
| 10－1 | 10－11 | 10 | 10－11 | New York． | 㐌 $6-11$ | O | 5 | 4－9 | 4－9 | 4－9 | 4－9 |
| 11－12 | 11－12 | 11－12 | C | Long Island | ${ }_{0}^{6-11}$ | 0 | 5－2 | $4-9$ $11-9$ | 4－9 | 4－9 | 4－9 |
| 10－2 | 11－2 | 11－2 | 11－2 | N．Carolina． | －${ }_{\text {O－12 }}$ | O | 5－12 | $\stackrel{11-9}{\mathrm{X}}$ | $\stackrel{4-9}{5-12}$ |  | X |
| 9－12 | 10 | X | 11P | N．Dakota | 5－12 | 0 | 5－12 | X 0 | $\stackrel{5}{0}$ | 0 | 0 |
| 10－2 | 11－1 | 11－1 | 5S | Ohio． | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 11 | $11-1$ | 11，${ }^{11}$ | Orla．． | 0 | 0 | X | 0 | 4－10 | 4－10 | 0 |
| 10－11 | 10－11 | 10－11 | 11－11 | Oregon ．．．．．．．．． | 6－3 | 0 | 5－3 | 0 | 4－9 | 4－9 | 0 |
| 10－1 | 10－11 | ｜10－11 | 10－11 | Pennsylvania．．． Rhode Island．． | 6－3 | 0 | 4－2 |  | 4－2 |  |  |
| 10－1 | ${ }_{10}^{10-12}$ | 10－12 | S | Rhode Island．．． <br> So．Carolina．．． | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 9－10 | 10 | 11 | 11，4－5 | So．Dakota． | O－S | OS | O－S | X | 0 | X | X |
| 11－2 | C | 11－2 | 4－5 | Tennessee． | O | 0 | 0 | $\underset{\text { X }}{ }$ | $\stackrel{+}{\mathrm{O}}$ | X |  |
| C | S | 11－1 | 11－12 | Texas | 0 | 0 | C | X | 6－11 |  | ${ }_{6-2}$ |
| 9－12 | 11 | 11 | P | Utah． | 0 | 0 | 0 | 6－11 | 6－11 | 6－11 | 6－2 |
| 10 | 10 | 10 | 10 | Vermont | 6－11 | 0 | 5－3 | 4－9 | $\stackrel{4-9}{4-12}$ | 4－9 4 $4-12$ |  |
| 11－1 | P | 11－1 | 11 | Virginia． | 0 | O $4-10$ | 0 | O | 4－12 | 4－10 | S |
| 9－12 | 10－12 | 10－12 | 10 | Washington W Virginia | $4-10$ 0 | $4-10$ 0 | 0 | O | ${ }^{4-10}$ | 0 | 0 |
| $\xrightarrow{10-2}$ | ${ }_{10-11}^{11}$ | $1{ }^{11-1}$ | $\stackrel{10-11}{S}$ | W．Virginia Wisconsin． | 5－2 | 0 | 5－2 | X | 5－9 | 5－11 | 0 |
| $10-11$ $10-11$ | 10－11 | $1{ }_{1}{ }_{\text {¢ }}^{\text {S }}$ | 10－11 | Wyoming | 0 | 0 | 0 | 5－10 | 5－10 | 5－10 | 0 |

BLUEGILL：Ariz．（O），Ga．（O）；Ind．（O），Ta．（O），Mich．（4－9），N．M．（O），S．D．（O），Tenn．（O）－ BULLFROGS：Ariz．（6－11），Ark．（4－12），Del．（5－12），Haw．（O），Ida．（6－10），Ill．（6－8），Ia．（O）， Ind．（4，6－10），Kans．（7－9），La．（4－5），Md．（O），Mo．（7－11），Neb．（7－10），Nev．（O），N．Mex．（8）， Conn．（4－6），Del．（3－6），Fla．（1－4），Ga．（1－4），Ia．（O），Md．（3－9），N．H．（1－8），Ore．（O）－ STURGEON：Ariz．（S），Ida．（O），Ia．（O），Mich．（O），Ore．（O），S．Dak．（O），Wis．（S）－TER－ RAPIN：Fla．（X），Pa．（O），Tenn．（O）．


## ISAAK WALTON

## THE MOST FAMOUS FISHERMAN OF THEM ALL

- THIS YEAR of 1968 celebrates the 280th anniversary of the death of Isaac, or as he used to write it, Isaak Walton. Born at Stafford, England, August 9, 1593, he left this world in his 90th rear at Winchester, December 15, 1683. A large black flat marble stone is inscribed to his memory in Prior Silksteed's Chapel in the Cathedral of Winchester. He was survived by a son, Isaac, and a daughter, Anne. To them, on October 24, 1683, he left most of his estate in a will remarkable for, among other thlngs, the bequeathing of some 44 inscribed rings to various friends and relatives, "each to be delivered within forty days after my death : and the price or value of all the said rings shall be thirteen shillings and four-pence a piece." Not too much is known of his boyhood or education. By 1624, howerer, he was following the trade of "linen draper" in a shop on Chancery-Lane in London which he shared with one John Mason, "hosier." About 1632 he married. In 1643, though far short of a competency, he left London, "finding it dangerous for honest men to be there" and mored to "Stafford and elsewhere; but mostly in the families of imminent clergymen.

Whlle in London his favorite recreation was angling. So great was his skill and experience in that art there is scarcely a writer on thls subject since that time who has not made the rules and practice of Waiton his foundation. With good reason, therefore, he is known as "the common father of all anglers."
The rules and directlyes for taking fish with hook and line, until Walton, had hardly ever been reduced to writing. In the 150 -year lnterval between the invention of printing and Waiton only fire books on this subject had appeared. The first was printed by Wynken de Worde in 1496 at Westminster. A reproduction of the woodcut on its tltle page appcars hercwith. Walton drew somewhat, especially in his directives for making flies, from this "first" and to some extent on the other four.

However, his Compleat Angler or Contemplative Man's Recreation which appeared in 1653 is the piscine literary monument of all time whether one looks at its style, considers lts humor, regards its scenes, or quotes its pastoral poetry.
The river Walton frequented for his fishing days was the Lea. It rises above Ware anismpties into the Thaute on lithe beto Bheck-
well. The theme of the Compleat Angler-perhaps it should be called a device-is a discussion among three individuals as they walk on a "fine, fresh May morning from Tottenham to Ware." One is a fisherman, one a hunter, and one a falconer. Wach commends lis own particular recreation. There are, in this treatise, some 368 pages, many illustrations, songs, footnotes, and asides of various kinds.

No doubt it is avallable by now in paper back editlons. We can't imagine a better way (unless it be that of just doing nothing at all) of passing the time between bait replacements than the relaxed perusal of this all-tine great.

## BOUNTIES?

There has been a renewal of interest in bounties among hunters, conservationists, wardens, and legislators. In general, the opinion seems to be that by placing unwanted animals ligh up on the sportsmen's list (longer seasons. etc.) or having state eradication teams pointed at the predators, the desired results are obtained to a far higher degree than through bounties. For one thing, bounties do not offer the control of our now-diminlshing supply of wildlife which these other methods do. For example, we may desire fewer bobcats, but do we wish to eradicate them altogether? For another, in many cases damage payments caused by bountied animals actually increase when said animals are bountied.. and it has been shown the bounty, for some reason or other, usually accompanies an increase rather than decrease in the animal or bird so marked.

The "most wanted" animals, birds, and snakes - if we believe bountles are a measure of these are llsted in the following number of states. The number of bountying states follows the name In parens: bobcat (18), fox (16), coyote (15), wolf (10), crow (9), woodchuck (6), mountain lion (5), bear (4), rattlesnake (4), gopher (4), porcupine (3), skunk (2), magple (2), hawk (2), lynx (2), and in (1) state only - hair seal, bluejay, Belgian hare, copperhead, starling, weasel, blackbird, beaver, jackrabbit, ground squirrel, and the great horned 0 wl .

Our own idea, if we are entitled to one, is that open seasons on all of the above (with the possible exception of the snakes) will deplete the supply as fast or faster than bounties will - and at far less expense.


## BEST FISHING DAYS, 1968

There are probably more "fishing calendars" sold each year than all the almanacs put together. It is likely that the more mystifying the ingredients of these calendars are, the more popular they become. Almost all agree, however, that fishing is better when 1) the barometer is rising or ligh ; 2) when the moon is between the new and the full; and 3) when the moon is in the astrological sign of Cancer, Pisces or Scorpio. The days listed below are days during which all three of the above are seen to occur. Those in parens are those during which only two of the above occur.

Jan. 7-15, 31; Feb. 2-10; Mar. 4-
14, (17-18) ; Apr. 1-10, ( 22,23 ),
30 ; Мау 1-7, (18-20), 29,30 ;
June 2-10, 25-27; July 2-9, 28,
29 ; Aug. i-6, 10, 11, 19, 20, 27-
30 ; Sept. 2-6, (22, 23), 24; Oct.
1-3, (4), (22-29), $30-31$; Nov. 1,
$(2-4),(10,11),(20-26), 27,28$,
(29, 30) ; Dec. (1), (20-24), 25,
26, (27-31).
Here are a few observations, taken from a room full of fishing books and clippings, which may or may not prove helpful:

Water temperatures between $55^{\circ} \mathrm{F}$ and $74^{\circ} \mathrm{F}$ are best; the clearer the water, the better, preferably with a slight ripple; south and west winds are the best, or any off-shore breeze.

The best times for fishing (or hunting) are one hour before and after high tide, and one hour before and after low tide. The times of high and low tides are giveu on pages 24-36, and corrected for your locality on page 112. Low tides are halfway between hlgh tides.


On July 19, 1848 at Seneca Falls, N. Y., a general declaration of women's rights was first presented, authored by Elizabeth Cady Stanton, Lucretia Mott, and others. In 1869, a National Woman Suffrage Association, led by Susan B. Antliony and Mrs. Stanton, was formed, and the American Woman Suffrage Association, led by Lucy Stone, was organized to work through State Legislatures; iu 1890 these two societies merced.

In 1886, Mrs. Hattie A. Burr edited The Woman Suffrage Cook Book, "published iu aid of the Festival and Bazaar" at Boston, December 13-19, which included contributions of thoroughly tested recipes by women teachers, lecturers, physicians, ministers, and authors known to favor suffrage at that tiune. Mrs. Burr stated in her Preface, "I believe. . our messenger will go forth a blessing to housekeepers, and an advocate for the elevation and enfranchisement of woman."

There follow a number of these "receipts," chosen at random.

## Home Made Yeast

Boil a heaping quart of loose hops (or if they are pressed, two ounces) in one gallon of water, strain it, when it is cold put in a small handful of salt, and a half pound of sugar, then take a pound of Hour and rub it smooth with some of the liquor, after which make it thin with more of the same liquor, and mix all together, let this stand twenty-four hours; then boil and mash three pounds of potatoes and add to it, let it stand treenty-four hours more then put it in a bottle or a tight vessel, and it is ready for use. Shake the bottle before using. It should be kept in a warm place while it is making, and in a cool place afterward.

Lucy Stone, Boston

## Tomato Catsup

Take a half bushel of ripe tomatoes; press through a siere until you have all the pulp; put the pulp into a porcelain kettle, and when it begins to boil add one-half tcacupful of salt, one ounce of whole cloves, one ounce of grated nutmeg, one ounce mace pounded fine, half teaspoonful of cayenne pepper (more cayenne pepper if preferred), one quart of good vinegar. Boil one and a half hours. When cold, bottle, and stop tight.

Mrs. Oliver Ames, Boston

## Old-Time Baked Indian Pudding

Three pints of sweet milk, two large iron spoonfuls of vellow cornmeal, one small egg, one iron spoonful of molasses, three-fourth cup of sugar, lieaped teaspoonful of ginger, level teaspoonful of cinnamon, one-third of a small nutmeg, and one-lalf a teacupful thick, sour cream. Put lialf the milk over the fire with a sprinkling. of salt; as soon as it comes to a boil scatter the meal quickly and evenly in by hand. Remore immediately from the fire to a dish, stir in the cold inilk, the egg well-beaten, the spices, sweetening, and sour cream. Bake three hours, having a hot oven the first half hour, a moderate one the remainder of the tine. Eat with sweet cream. If rightly made and rightly baked, this pudding is delicious, but four things must be remembered as requisite: First, the pudding must be thin enough to run when put in the oven. Second, the egg must be small, or if large, but two-thirds used for a pudding of the above size. Third, the sour cream must not be omitted (but in case one has no cream, the same quantity of sour milk with a piece of butter the size of a small butternut can be substituted). Fourth, the baking must be especially attended to. Many a good receipt is ruined in the cooking, but if the directions are carefully followed, this pudding will be quavery when done, and if any is left, a jelly when cold. Use no sauce, but sweet cream or butter.

> Matilda Joslyn Gage, Fayetteville, N. Y.

## Children's Doughnuts

One cup sweet milk, two cups sugar, three eggs, lemon flavoring, three heaping teaspoonfuls baking powder. Sift about two quarts Hour into mixing pan, making place in the center for baking powder, sugar, eggs, flavoring, and butter size of walnut. Add the milk, mixing slowly, and use enough flour to roll without sticking. Roll quite thin; cut in rings, and fry in smoking lot lard. Drain well. Equal parts of lard and beef fat may be lised.

Mrs. Jessie F. A. Bants, Boston

## Snow Griddle Cakes

Take six tablespoonfuls flour, add a little salt, and six tablespoonfuls of light, fresh-fallen snow. Stir the flour and snow well together, add a pint of sweet milk. Bake the batter in small cakes on a griddle, using only a very little nice hutter. They may be eaten with butter and sugar, and are very delicate.

Ednah D. Cheney, Boston

## Salmon Hasb

Mash until light eight good-sized potatoes, season thoroughly, stir into the potato one-half can of salmon picked fine; heap on a platter, smooth, and mark with a fork, and set in the oren to brown. Salt salmon may be used instead of canned salmon.

Ella C. Elder, Florence, Mass.

## Raspberry Pudding

One-quarter cupful of butter, one-half cupful of sugar, two cupfuls of soft bread-crumbs, four eggs. Rub the butter and sugar together: beat the eggs, yolks and whites separately; mash the raspberries, add the whites beaten to a stiff froth; stir all together to a smooth paste; butter a pudding-disl, cover the bottom with a lajer of the crumbs, then a layer of the mixture; continue the alternate layers until the dish is full, making the last layer of crumbs: bake one hour in a moderate oven. Serve in the dish in which it is baked.

Mrs. Alice A. Geddes, Cambridge, Mass.

## Rbubarb Toast

Take one pint water, half a cup of sugar: when boiling put in two pounds rhubarb cut in small pieces. Stew until done: when cold pour over a platter of hot toasted graliam bread, having a little butter upon it. This is an excellent breakfast dish, and as the toast absorbs the peculiar rhubarb flavor, can be eaten by those who usually dislike it. Gooseberries and tait apples can be pepared in the same way.

Note: Never use white bread for toast, when bread of the unbolted or entire wheat flour can be had. The latter never becomes doughy, and is much better flavored, besides being more nutritious. Alice B. Stockham, M.D., Chicago

## Rebel Soup

Heat one quart of milk to the boiling point, add one cracker rolled fine; to one cup of tomatoes add one-fourth teaspoonful soda. stir, and while foaming add it to the boiling milk; put butter, salt, and pepper in the dish, and pour the soup on them.

Mrs. Mary F. Curtiss, Boston

## Macaroni and Oysters

Take boiled macaroni and put a layer in a deep dish, above this put a layer of good-sized oysters dried with a soft towel; season these two layers with butter, pepper and a very little salt: add another layer of macaroni, season with butter and salt; a layer of oysters, season with butter, and pepper, and salt; the top layer of macaroni, with butter and salt. Set in the oven long enough to cook oysters and brown the macaroni.

Mrs. Sarah R. Bowditch, Brookline, Mass.

## Fricandelles

Chop cold meat very fine, add teacup of scalded milk in which a teacup of bread crumbs has been rubbed smooth, half cup of butter, juice of half a lemon, salt and pepper. Make into balls, roll in yolks of eggs, brown in butter. Remove balls, brown tablespoon of flour in the butter, add slowly a pint or more of beef stock, boil two minutes, replace balls and cook slowly for an hour. Serve with toast and lemon. Beef, chicken, etc. may be used. If real is used, add half cupful chopped ham.

Mrs. Jessie F. A. Banks, Boston

## Plum Catsup

Boil the plums, skins and all, with a little water, and, when soft, strain through a colander, pressing the pulp through. To five pounds of pulp and juice add three pounds of light brown sugar. one pint best cider-vinegar, one salt-spoonful of black pepper (use cayenne if you prefer), one tablespoonful each of salt, ground cinnamon, and mace, two teaspoonfuls of cloves (ground). Boil twenty minutes.

Mary F. Daniell, Boston

## Sweet Pickled Cabbage

Cut a head of cabbage iuto halves or quarters; after trimming away the finer outside part (which may be used for slaw) boil the heart and stem part of the leaves left in clear water and a little salt thl qulte tender. Drain well for five or six hours or over night; then to one pint of vinegar add a coffee-cupful of sugar, with whole spices and stick cinnamon to taste (let the cinnamon preponderate). Put cabbage in jar, pour vinegar and spices over while boillng-hot: as soon as cold it whll be ready for use; will keep a fortnight. If preferred, the cabbage heart can be left whole, the leaves trimined till within a couple of luches of it all around, when it is very ornamental for lunch party or festival supper.

Louise V. Boyd, Dublin, Ind.

## Apple Batter Pudding

Three eggs beaten very light, one pint milk, half teaspoonful salt, one dozen apples chopped fine and added to batter. Bake in cake pans half hour. Serve on platter with cold hard sauce.

Mrs. Benj. F. Pitman, Somerville, Mass.

## Squasb Pie Filling

To one pint sifted squash add one quart boiling milk, one egg. two crackers rolled fine, one large cupful sugar, one teaspoonfui comstarch, hall leaspoonf al clasannon, haft teaspoonful satt and a little nutmeg.

## TABLE OF MEASURES

## Apothecaries

1 scruple=20 grains
1 dram=3 scruples
1 ounce $=8$ drams
1 pound=12 ounces
Avoirdupois
1 pound=16 ounces
1 hundredweight $=100$ pounds
1 ton=20 hundredweight=
2000 pounds
1 long ton=2240 pounds

## Cubic Measure

1 cubic foot $=1728$ cubic inches
1 cubic yard=27 cu. feet
1 register ton (shipping measure)
$=100$ cubic feet
1 U . S. shipping ton=40 cu. ft.
1 cord=128 cubic feet
1 U. S. liquid gallon=4 quarts $=231$ cubic inches
1 imperial gal. $=1.20 \mathrm{U}$. S. gals. $=0.16$ cubic feet
1 board foot $=144$ cubic inches
Dry Measure
2 pints .......... $=1$ quart (qt.)
4 quarts $\ldots \ldots . .=1$ gallon (gal.)
$\left.\begin{array}{l}2 \\ 8 \\ \text { gallons or } \\ \text { quarts } \ldots . .\end{array}\right\}=1$ peck
4 pecks ............ $=1$ struck bushel
Linear Measure
1 foot $=12$ inches
1 yard=3 feet
11 rod $=51 / 2$ yards $=161 / 2$ feet
1 mile $=320$ rods $=1760$ yards $=$
5280 feet
1 U. S. nautical mile $=6076.1033$
1 knot=1 nautical mile per hour
1 furlong $=1 / 8$ mile $=660$ feet $=$
220 yards
1 league $=3$ miles $=24$ furlongs
1 fathom=2 yards=6 feet
1 chain=100 links=22 yards
1 link $=7.92$ inches
1 hand=4 inches
1 span=9 inches

## Square Measure

1 square foot $=144$ square inches
1 sq. yard $=9$ sq. feet
1 sq. rod=301/4 sq. $2721 / 4$ sq. feet
1 acre $=160 \mathrm{sq}$. rods $=43560 \mathrm{sq} . \mathrm{ft}$.
1 sq. mile $=640$ acres=
102400 sq. rods
1 sq. rod=625 square links
1 sq . chain=16 square rods
1 acre $=10$ square chains

## Troy

(Used in weighing gold, silver. jewels)
1 pennyweight $=24$ grains
1 ounce $=20$ pennyweight
1 pound $=12$ ounces

## Household Measures

120 drops water $=1$ teaspoon
60 drops thick fuid=1 teaspoon
2 teaspoons $=1$ dessertspoon
3 teaspoons $=1$ tablespoon
16 tablespoons $=1 \mathrm{cup}$
1 cup=1/2 pt.
1 cup water $=1 / 2 \mathrm{lb}$.
3 tablespoons flour $=1 \mathrm{oz}$.
2 tablespoons butter $=1 \mathrm{oz}$.
3 teaspoons soda $=1 / 2$ oz.
4 teaspoons baking powder= $1 / 2 \mathrm{oz}$.
2 cups granulated sugar=11b.
$33 / 4$ cups confectioners' sugar= 1 lb.
$21 / 2$ cups wheat flour $=1 \mathrm{lb}$.
$31 / 2$ cups whole wheat flour= 1 lb.
$21 / 2$ cups buckwheat flour $=1 \mathrm{lb}$.
$51 / 3$ cups coffee $=1 \mathrm{lb}$.
$61 / 2 \mathrm{cups}$ tea $=1 \mathrm{lb}$.
2 cups lard=1 lb.
2 cups butter=1 lb.
2 cups corn meal $=1 \mathrm{lb}$.
2 cups powdered sugar $=1 \mathrm{lb}$.
$23 / 4$ cups brown sugar=1 lb .
23 cups raisins $=11 \mathrm{~b}$.
238 cups currants $=1 \mathrm{lb}$.
9 eggs=1 lb.

## Liquid Measure

4 gills=1 pint (O.)
2 pints=1 quart (qt.)
4 quarts=1 gallon (gal.)
63 gallons $=1$ hogshead (hhd.)
2 hogsheads $=1$ pipe or butt
2 pipes=1 tun

## Metric

1 inch $=2.54$ centimeters
1 meter $=39.37$ inches
1 yard=0.914 meters
1 mile $=1609.344$ meters $=$
1.61 kilometers

1 sq . inch $=6.45 \mathrm{sq} . \mathrm{cm}$.
1 sq. yard=0.84 sq. m.
1 sq . mile $=2.59 \mathrm{sq} . \mathrm{km}$.
1 acre $=0.40$ hektars
1 cu . yard $=0.76$ cubic meters
1 cu . meter $=1.31$ cubic yards
1 liter $=1.06$ U. S. liquid quarts
1 hektoliter=100 liters=
26.42 U. S. liquid gallons

1 U. S. liquid quart $=0.94$ liters
1 U. S. liquid gallon=3.76 liters
1 metric ton $=1000$ kilograms
1 kilogram=2.20 pounds
1 pound avoirdupois =
0.45 kilograms

#  



## GOD'S REVENGE AGAINST MURDERER

Two Foung Men bathing in the River Farrow, quarrelled, and in the heat of Passion. One stabbed the other to the Heart, with a Fish Spear; although stupefied with the Act, Self-preservation dictated the Concealment of the Body, which he buried deep in the Sands. As the Meeting at the River was accidental, he was never suspected, although a visible Change was observed in his Behariour, from Gaiety to a settled Melancholy. Tine passed on for the Space of Fifty Years, when a Smith, fishing near the same place, discovered an uncommon aud curions Bone, which he put in his Pocket, and afterwards accidentally shewed to some Persons in his Smithy. The Murderer being present, now an old whiteheaded Man, leaning on his Staff, desired a sight of it. but how horrible was the Issue ! no sooner had He touched it, thau it streamed with Blood; being told where the Bone was found, he confessed the Crime, was condemned, but was prevented by Death, frow suffering the Punishment due to it.

Stirlingshire, Eng. Circa 1750

## 1806 ADVERTISEMENT

Dr. Simon Ramrod has recently discovered a tincture made from the wridiron plant becomes a specific remedy for every complaint of mind or body to which human nature has been subject since the Flood. It will also prevent accidents, quicken the circulation, and streng then the muscles. The following testimonials prove the efficacy of Ramrod's Tincture of Gridiron.

The subscriber has long been afflicted with the tooth-ache, to such a degree that nearly all his teeth have been drawn out; and, by an unjust sentence, he also, unfortunately, had both his ears cut off. On applying the Tincture of Gridiron his teeth were restored, and his head was instantly supplied with as fine a pair of ears as he could boast of the day he was born.

## John Earwig

Sometime ago my house was very much infested with rats; and one day, while $I$ sat brooding over my misfortunes, a large number of them suddenly came upon me, and eat me up. I instantly took some of the Tincture of Gridiron, and found my self at ease, and have never been eaten since.

Jack Recover
Walking, not long since, near the machinery of a mill. I was canght and carried between two cogwheels. and every bone in my body broken to pieces. A phial of Ramrods Tincture of Gridiron being thrown into the mill pond, I found myself restored, and as whole and sound as a roach.

Dick Whirligig

## MPROVING THAT SPEECH

Mark Twain's success on the platform is said to hare been much greater after he did away with his manuscript. From the written lecture, he came down to copious notes: from these to a little card with printed heads, which he put in his waistcoat pocket. He dispensed with this by substituting a few marks on the back of his finger nails, and then he went it alone.

## THIRTY DAYS HATH

One of the most useful rhymes in the world is the familiar jinglle beginning. Thirty days hath September; and yet millions who repeat the verse never know the name of its author. From a book recently published, England as seen by an American Banker, it appears that the rhyme was written by a school teacher in New-castle-on-Tyne, named C. F. Springman. He introduced into his school the idea of teaching history, geography and other
branches through the medium of rhyme, and one day he hit upon this bit of jingle in order to impress upon the minds of the boys, in an indelible manner, the number of days in the different months of the year.

## THE WAY OF THE WORLD

Laugh, and the world laughs with you.
Weep, and you rreep alone,
For the brave old earth must borrow its mirth.
It has trouble enough of its own.
Sing, and the hills will answer.
Sigh, and it is lost on the air;
Tlie echoes rebound to a joyful sound
And shrink from voicing care.


Rejoice, and men will seek you, Grieve, and they turn and go;
They want full ineasure of your pleasure,
But they do not want your woe.
Be glad, and your friends are many,
Be sad, and you lose them all;
There are none to decline your nectared wine;
But alone you must drink life's gall.
Feast and your halls are crowded,
Fast, and the world goes by;
Forget and forgive - it helps you to live,
But no man can help you to die!
There is room in the hall of pleasure
For a long and lordly train, But,- one by one, we must all marcli on
Through the narrow aisle of pain.
Ella Wheeler Wilcox, "Solitude".

## A CURIOUS DUEL

A duel was lately fought by Alexander Sliott and John Nott. Nott was shot and Shott was not. In thls case it is better to be Shott than Nott. There was a rumor that Nott was not shot,
and Shott avows that he sliot Nott, which proves either that the shot Shott shot at Nott was not shot, or that Nott was shot.

Notwithstanding that circumstantial evidence is not always good, it may be made to appear on trial that the shot Shott shot shot Nott, or as accidents with firearms are frequent it may be. possible that the shot Shott shot shot Shott himself, when the whole affair would resolve itself into its original elements, and Shott would be shot and Nott would be not. We think, however, that the shot Shott shot shot not Shott but Nott. Anyway, it is hard to tell who was shot.

Courtesy of A. H. Langlois
IDES OF MARCH (see pg. 29)
The Ides were eight old women, Nones nine, and Colind another - making eighteen on the whole whose breath were polson. These old hags were sure to be out in bad going and old Mother Colind took the lead. Hence the expression "Beware of old Colind."

March 1816

## A SUPERSTITION ENDS

On April 15, 1718 all 24 churches of St. Pol de Leon in Brittany started ringing bells to keep away lightning. All were struck. The six churches whose bells were not ringing were not struck - thus ending a superstition.

## CATTAIL HAIR CURLERS

On January 27, 1967 Mrs. William Cooley of Ada, Ohio (99 years old) recalled, as highlights of her childhood
(1) Barnum \& Bailey's circus,
(2) Women in hoop skirts, and
(3) Hair-does called "waterfalls" made of artificlal curls worn at the back of the head and neck. When the curls came out they were wrapped on cattails and boiled in hot water.

Courtesy - Mark Warren



RATTLESNAKE ISLAND'S LOCAL POST


- THE TRIANGULAR stamp shown above is the one (of several different denominations) now being used for the transportation of U. S. Mail from Port Clinton, Ohio, to and from Rattlesnake Island. about 10 miles north, in the waters of Lake Erie. The island consists of some 85 acres, and boasts of an Executive Retreat, Yacht Harbor, Air Strips, Lodges, the Golden Pheasant Inn, and three permanent resiidents.

From 1845 to 1862 the U. S. Postal Service made no attempt to deliver mail to its patrons. The patron was required to go to the nearest Post Office to both deposit and pick up his mail.

Then a number of private companies were started throughout the country which, for a fee, would pick up and deliver to and from the patron's home or office. Most of the Local Post Companies issued stamps to indicate that the fee had been paid. These stamps are called Locals.

The Post Office at first appreciated the augmentation of its services by the local Posts but soon the private service was distinctly better than that of the Post Office and the competition was felt strongly. Over a period of 30 some years before the turn of the Century the battleground of the U. S. Postal Service and the Locals was in various courts. It was a continuing battle which many a Local temporarily won, only to lose later by a reduction in area and an operation below which he could profitably function.

Today the majority of the U. S. population takes for granted mail pick-up and delivery as one of its "inalienable rights." This is not the case. There are many underprivileged areas in this country, such as Bingham Canyon, Utah (pop. 15,000 ) and Shrub Oak, New York.

In 1952 Mr. Herman Herst, Jr. of Shrub Oak, New Xork noted Title 18 of the U. S. Code, which permits an individual to institute a Local Post service in areas to which the 1862 service of home and office delivery had not yet been extended. Mr. Herst's lawyer wrote to the Solicitor-General of the U. S. Post Office to see if the law was still valid. It was valid and the Shrub Oak Local Post was born. The U. S. insisted, naturally, that an official stamp be on the letter. The other requirements were that the local stann shonld not be placed in the upper right hand corner where the official stamp belonged and that the cancelling device used to prevent reuse of the Local could not be similar to the official postal cancel.

Following the footsteps of Shrub Oak Local Post, several dozen local posts commenced operation. That on Rattlesnake Island was established August 27, 1966. The stamp (above right), designed for this scrvice by Dr. J. P. Frackelton, served well until December 9 . On that datc, the Post Office Department ruled they were "too good"; and could not enter the U. S. Mails. Even thongh U. S. stamps were on the same envelope, the Department maintained they might lead to confusion.

Accordingly, after obtaining approval for new triangular-shaped stamps from the Department (granted because triangulars are never used for U. S. postage), Dr. Frackelton and Henry Prokupek designed and printed new triangular-shaped Local Rattlesnake Post stamps (see above left). These were issued January 23,1967 , much to the delight of some 10,000 "first day" collectors and others. Service to the island is by a 1928 vintage Ford Trimotor Plane. The new postoffice waves a Kiattly hatre Isiand Higy. Mras. Chazles Benseh, wife of its caretaker, is its Postmistress. Collectors should write to her, e/o Island Airlines, Port Clinton, Ohio.

## ORIGIN OF A SHRUNKEN HEAD



The amazing letter which follows was found among the papers of a friend of the Mr. Aglionby to whom it is addressed. This friend has explained that he was an humane and kindly person. Mr. H. Saxe Wyndham, who supplied the letter to the source from which we obtained it: viz The Countryman, April 1939, was of the opinion that "the unfortunate aborigines of New Zealand were looked upon as an interesting kind of game."

Sydney, New South Wales, 20th May, 1839

My dear Aglionby,
I have great pleasure in informing you that after considerable trouble and difficulty $I$ have at last succeeded in procuring you a capital specimen of a New Zealander's head and as soon as it ls well cured and properly dried I shall send lt to you by the first ship that leaves this Colony, and I think that you will agree with me In considering if as a beautiful and curlous ornament for the handsomest room in your house.

I fell in with the possessor of the head by the merest chance while proceeding from Sydney to South Cove, going through the plalns with a party of Natives, and after a long chase we succeeded in bringing him down by a rifle shot, which fortunately dld not injure any of the ornamental tatoos on his face, which I doubt not you will admire as much as $I$ do.

If you would like his skin $I$ have it drylng and will send lt to you the first opportunity. Some of the tatoos on lt are exceedingly beautiful particularly on certain parts, but one figure has suffered a llttle by the ball having passed through lt.

Let me know as soon you can the receipt of the head and tell me at the same time if you would like the head of a female as I shall have great pleasure in supplying you.

Believe me, My dear Aglionby,
Ever yours sincersly

## I. W. Willis

The editors of The Countryman questioned the accuracy of the New Zealander being shot "between Sydney and South Cove, Australia." Further research on their part turned up a descendant of a relative of Mr. Aglionby who statcd that at the tionc o! then shating n mumbr of Maoris had been taken to Australia. The editors also discovered that in the year 1831, the Governor of New South Wales prohibited the importation of heads into that territory.

# AROUND THE ROUND TABLE at 

 ROUND THYNGby<br>ABRAHAM WEATHERWISE, W.M.

■ ROUND THYNG is the oldest weather observation station in America. The first successful weather observer on the American continent used it as early as 1131 A.D. This observer, Chief KnowsRain, never failed. He would place one of his braves on the HIGH ROCK at ROUND THYNG and instruct him not to return until he could see or feel rain approaching. The Chief would then tell his tribe that upon the approach of his brave from High Rock, it could expect rain. That quite a few braves perished on High Rock waiting for rain is a matter of hieroglyphic record.

I was honored in the Spring of 1967 to be invited to Round Thyng. The invitation stated a World Weather Conference would be held there April 13-17, 1967. Ponchos, sleeping bags, cooking utensils, sourdough, insect deterreuts, and water canteens had to be brought by each conferee, but free transportation by mule-back would be furnished by the management from the old freight siding near the Thyngs Mills Hide and Leather Company. We were told the ride in, with good luck, would take about five hours. The purpose of this Conference would be to provide the International Meteorological Seminar at Gencra in May 1967 with an adequate, accurate, scientific basis for longrange weather forecastlng.

Needless to say, about half of us invited guests were dead by the time we arrived there. My old friend, One-Eyed Bill Smith, was the first to greet me.
"Hello, Abe. You made it, huh? Why in - they had to hold this thing here instead of at my old Thyng's Mill Camping Ground is heyond me. Round Thyng ain't half so good as Little Thyng or Big Thyng - you know that."
"Never mind," I replied, always one to humor rather than cross him. "We got things to talk about - just you and me."

Registration Day, what with everyone running around to find

a soft spot for his sleeping bag on rocky Round Thyng and learning the difference between the conferees' real aud stage names, must have looked to an outsider like old Home Day at Antville.

The Conference was called to order on the second day (April 14) by Elisha Bitgood from the top of High Rock at sunrise with an Alpine vodel and the rattling of Elisha's bones in the cold morning air. Always one to get his forecast in ahead of everybody else, he awoke nearly all of us with these stentorian words.
"Hear ye, hear ye, all ye upstate, outstate, downstate, and instate weather dogs - the only way to tell what the weather is going to be is to look at it just before the Summer turns to the Fall. If she's sort of clinging and warm -"

Nobody heard another word he said. He had collapsed.

Among those present still allve was Mr. Weatherbee of WBZ-TV
also known as Don Kent. He explained he had colue by boat. As none of us could see a river or lake or eren an ocean near Round Thyng, we asked him about that. His formal announcement was -
"I have an allergy to mules." And then he added. "No sense in my hanging around here. When last January came in with only $1 / 2^{\prime \prime}$ of snow, I knew my theory to be the best. Way back in the 40 s I told-and it is a matter of record - the Longmeadow (Mass.) Maternal Association that 'weather prediction is the biggest guessing game in the world.
After that announcement, as tounded by the rise of waters (on which Don sailed away) around High Rock, F. W. Reichelderfer of the U. S. Weather Bureau, suggested to the Chairman that the Conference be abandoned altogether for at least one day. When somebody explained to him that the Chairman had unfortunately drowned, he mounted the podium on High Rock and gave forth the
following to the few of us who were curious enough to listen.
"Some day in the future, the five-day forecasts preseutly issued by the U. S. Weather Bureau, will become forty-day forecasts."

Somebody asked him how or why or when, but all he replied was, "By larger financial grants from the Congress - that's how and why."

Our little group then suggested he put this in writing to be forwarded to Geneva as the best suggestion so far to come from this important Conterence. This he did.

April 16 dawned with a rosy hue for all except the few who still didn't believe Don Kent's miracle of the day before. One of these was none other than the Countryman, also known as Haydn S. Pearson. After his breakfast of sourdough and the special pickles from his homemade New Hampshire pickle barrel, he had been seen to wander off with his telescope into some nearby brush. As everyone thought this was just early moruing routine, they gave it not another thought. But, by eleven o'clock, when he had not returned, we began to wonder. We looked in the thicket. He wasn't there. But we could see him far down in the valley near a stonewall. With him were Irving Sanders of Brewster, New York and Monsieur M. K, Dublin from Weston, Connecticut. At about two-thirty in the afternoon all three returned to ,", the Conference. "Well, gentlemen," our huffy new Chairman asked them, "after having most of yesterday off, I had expected you would attend our meeting, today. What is the explanation?"
"You can tell Genera," quoth Haydn, "that the chipmunks were all carrying their tails at a $90-$ degree angle today $\overline{\text { so }}$ next winter will be normal."
"I disagree," interrupted Irving Saunders. "He is wrong. The reddish brown band of the woolly caterpillar we saw this morning was much wider than usual. That means a mild winter for sure."
"Boslr," exclaimed Dubliu. "I heard a katydid singing real loud this morning down by that wall when we were there. Don't you realize what that means, gentleuen? It means that six weeks and one day from today winter will begin. That will be June second. Why, this is hardly before the present winter will be over!"

After that, the Chairman was not able to bring the meeting to
order at all. So, without a vote or anyone hearing him - he recessed it until Campfire Song Hour ( $8: 00$ P.M.).

Ernest G, Knights (whom only a few had recognized as my old friend One-Eyed Bill Smith) turned out to be the leader of the Campfire Song Hour that evening. With him at the Round Table were Irving G. Krick, Roger Babson, and Howard Miller. The lastnamed had blown in on the Wind from Chicago. Knights immediately announced the Hour, as usual, would be devoted to singing. He added that inasmuch as the purpose of this Conference was to contribute long range forecasting formulas to the International Seminar at Geneva, the first number would be a duet by Ernest G . Vennor, Republican, and Irying G. Krick, Democrat. He explained at some length (too much length. I felt) how it was that all long: range forecasts grew out of noticing each spring the harmony or disharmony between this nation's two great politieal parties.

Opening his secret and confidential barometer book, Mr. Krick then began -
"Well, I'll take the high notes, and you'll take the low notes, then we'll all,"bring the rains in together
Jerome Namais, Chief of the Long Range Forecasting Division of the U. S. Weather Bureau, objected. Knights had to recognize him.
"The singer is out of order. His song is a direct steal from 'There's a long, long trail awinding.'"
Whereupon all the conferees immediately drowned him out with the next line - "Unto the land ot my dreams" and so on until they had finished the entire song.
When order was restored, Krick insisted his song was better. After all, hadn't he predicted DDay weather for Eisenhower's Iuvasion with it? And "Don't I


It was blowing great guns.


Don Kent sailed away.
collect huge fees for singing it all over the world?"
Whereupon Henry Ward, Treasurer of the American Meteorological Society, rose to his feet with a motion.
"Moved we throw Krick out of this meeting on the grounds that any mention of (or taking of) fees for long range forecasting is not only commercial but unethical."

It was duly seconded and so voted-but Krick did not leave; nor did anyone try to throw him out.

Vennor then took the floor.
"As a good Republican, I will now ask Mr. Krick to join me in 'Hallelujah, Hallelujah ,", Happy Days Are Here Again.'"

So Krick did. Those of us who were not tone deaf joined in with our particular political party sides and some followed Krick's "Long Long Trail" and others followed Vennor's ",Oh, What a Beautiful Morning."

Knights then explained at length (again at too much length, I felt) that one could also determine weather in adrance by the harmony or disharmony between the residents of Massachusetts and those of Maine. Whereupon he called upon Charles F . Brooks of Milton. Massachusetts, and Charles W. Curtis of Searsport, Maine.

Curtis began first. "Way up the river, it will snow. . . snow . . . snow . . ."

## "Bauer . : Bauer . . . Bauer ins Brooks interjected, twirling his dewpoint thermometer to keep

 the rhythm.The harmony was surprisingly good, Knights announced afterwards. The Canıpfire Hour was adjourned with the recommendation that Geneva should note the date of the first snowstorm, add to it the age of the moon on that date, and the result would be the number of snowstorms during the following winter.

It was a good thing that the next day was the final one. Just about everybody was down to his last cupful of sourdough and quite a few were beginning to complain that Spring at Round Thyng was far worse than any Winter ever known at Medicine Hat.
G. L. Christiansen of Indio, California, tried to get the floor first thing that final morning with his herd of turtles. Henry Boon of London, England, with his gnats and swallows, disputed that move with one of his own. Helen Frobisch of Caribou, Maine waved both away with her grandmother's shadow. Chairman Hurd Willett, Chief of Meteorological Research at the Massachusetts Institute of Technology, took the chair. Much to the delight of all present, he declared himself as Chairman of the Conference. Up to then nobody had known just who was Chairman.

First, he declared that inasmuch as the public was beginning to take exception to the infallibility of weather forecasts in general and had already indicted Kenneth C. T. Cheng of Taiwan for predicting a typhoon which never came (Cheng arose, took a bow, received applause) and C. B. Pooshalong, Head Priest of the Temple of Pakistan, had been thrown out of office for not being able to see the Paschal new moon (Pooshalong had mislaid his glasses and still couldn't find them), he, Willett, was having erected here at High Rock, for all to see, a huge marble slab on which would be chiseled some of the weather theories which had failed to materialize since the winter meeting at Medicine Hat held at the peak of the Sunspot Crcle in 1946. Parchment copies of the plaque were then distributed to all members. These read as follows:
"Resolved, that inasmuch as the Baxter tleory proclaimed that by now in 1966 paln trees would be growing in Greenland aud many Floridians, as a result, bought land at high prices in Nova Scotia, Newfoundland, and Labrador, as well as Greenland, this group declares the Baxter theory was and always will be wrong and takes no responsibility therefor."

As Willett read this first paragraph, W. C. Ewert tried to amend it by adding that grandpa's snowstorms were never as old-fashioned as those in 1966. but a member of the Society of the Survivors of the Blizzard of 1888 objected and it failed to


The Countryman.
"Resolved, that the Abbott theory that one can make accurate weather forecasts fifty years in advance by correlations between solar and temperature changes, be set aside until our next meeting. The reason is that these forecasts take too much paper work and nobody lives for the fifty years needed to verify these, except Mr. Abbott."

Applause. Bow by Mr. Abbott.
"Resolved, that one Hal Borland of the New York Times and Berkshire Eagle be censured for his erroneous statement in, 1941 that 'Winter will be winter.' Since his statement, there have been several winters that were summer, and several summers that were winter."

More applanse. No bow by Mr. Borland. He was furious.
"Resolved, that Professor Vainor Auer of Helsinki be cautioned about any more forecasts of droughts or volcanic eruptions coming out of low ocean levels around South America, as such forecasts do not improve Latin American relations."

The meeting was then recessed while members discussed the advisability of adding to this resolution another one which would prevent Richard Nixon and/or Robert Kennedy from going to South America at all. In the mean while, a parade, with banners reading "Let's keep the Gulf Strean where it is," began and another group followed it proclaiming "Ice cubes and Iodides for Hurricane Control."

Chairman Willett restored order by hoisting not one, but two, red Hurricane Warning Balls up the pole on High Rock to just below Old Glory.

He then introduced, as the last speaker of the Conference, Dr. speaker of the reonverence,
Edward Teller. renowned atomic
scientist. As Dr. Teller, in cap
and gown, took the podium, you could hear a pin drop. Before him, as he began his speech, he held a huge black bomb, the white fuse from which dangled perilously near his lighted cigarette.
"Gentlemen," he began, "I will now demonstrate for the benefit of the Geneva International Meteorological Conference next month how it is by the simple method of blowing off mountain tops - and the redirection of ocean currents and hurricanes we can

The exodus from High Rock and Round Thyng made the march of the Israelites into the wilderness look like a parade of wooden soldiers. I didn't even lave to run or walk or crawl. I was swept back with the crowd to the Thyngs Mills Hide and Leather Company in less than one-tenth the time it had taken me to ride in from there. At the freight siding nobody even waited for the train to start. When it did, you could see members, still running, for miles down the track ahead of the engine.

Quite honestly, I don't know what happened at High Rock after we left or whatever did become of Dr. Teller and his bomb. I have heard reports, however, that the sun has been setting in recent months about four degrees to the east of the Rock - whereas when we were there it had been setting four degrees to the west of it. The International Meteorological Seminar at Geneva, as this article went to press, was still wrangling about, and deeply bogged down in, discussions of whether the Russians or ourselves would control the light or the dark of the moon and how much, if anything. the Congress shonld ask the U.N. to contribute for weather research and an International Weather Bureau on Jupiter. . .

The End


Four degrees to the East?


The above shows the author's grandfather (right) in flight in a homemade kite (left) in 1910.

## THE KITES CAME FIRST

by Malcolm M. Ferguson

- KITES have been a familiar part of our country scene for more than a couple of centuries. Around New England, these were apt to be diamond-shaped, or perhaps with the head rounded off. They are sprung or bowed slightly to catch the wind, and are sometimes called bow-kites for this reason. This diamond kite is of ancient origin, and is the kind you'll see under " $K$ " in the old spelling books, or to give action to the 1790 -vintage vignettes by that remarkable British countryman Thomas Bewick, who set the style for American woodengravers and almanac-illustrators.

Kites caught my imagination for an added reason: my grandfather went up in one, and a photo of him thus suspended made the combination of toy and experiment appealing to me. This element of adventure was present, too, when Ben Franklin and son sent their kite up into a thundercloud in a Promethean experiment to see whether the wet string would carry that mysterious force, electricity. It did, but in an obligingly small dose, so that the Franklins, beloved of the gods, lived to stir the hearts of their countrymen.

The kite's slender string was a most necessary lifeline to earth for flying man, or homo volans, just as the umbilical link still is necessary for astronauts. When there's a string attached, it's a kite, not a glider; and that is what Alexander Graham Bell sent Lt. Thomas Selfidge up in - a glider-shaped kite - in 1907. So it is quite clear that through kites the thoughts and daydreams of kids and their elders go back in years beyond the free-soaring gliders, the Wright Brothers, the magnificent men in their flying machines, the aeronauts, and the astronauts.

Clearly, a motionless, hovering gull weighs more than the air it displaces-yet it is held up. The significance of what has come to be called streamlining, was recognized a century ago by an Englishborn Unitarian minister, Samuel Robert Calthrop, who introduced the crew-racing shells - America's first intercollegiate sport - for Harvard in 1852. In the late 1860 s lie patented a streamlined train. In racing sliells the slip stream is critically important, but in the locomotives of the period it was inconsequential. Such random efforts, measured in terms of the history of flight, were definitely cumulative.

It wasn't until the 1920 s and 30 s that the complex nature of the air-foil was understood; previous efforts liad been on a trial and error basis. This is the way it is explained by architect-designer Norman Bel Geddes, in his book, Horizons: "An object is airfoiled when its exterior surface is so designed that upon being projected through the air, a useful dynamic reaction is imparted to the object by the action of the air. The lift of an airplane wing is an excellent example of a useful dynamic reaction."

Curiously, the answer was available in the 19th Century. Ask a few airmen today and they will explain it all with drawings and distinctive hand gestures. The basic theory, they will tell you, was ex-
pounded by a member of a family of Swiss mathematicians, Daniel Bernouili, in a 1738 book, Hydrodynamica. It boils down to this: arch the top of a plane wing, but make the bottom flat. The air flows more quickly beneath the wing, more slowly above. It is assuring to know that argument and airplane alike are now sustained by mathematics and wind tunnel evidence.

With innocence of such matters in the 1890s, the question arose, what size and shape of kite would have a good enough lift-to-drag ratio to get a man up in the air? Remember, these were backyard experiments. These people - in the United States, Germany, France, Anstralia - were wondering, just as Leonardo da Vinci did around the year 1500 , if the flying man should flap the mechanical wings of this bird-machine, or ornithopter. As a result, experimenters from that period on were bedeviled with the alternatives of remaining quiet during their brief flight, or engaging in some jumping-jack exercise which would somehow translate into a flight-sustaining force.

It is not clear when the first man went up in a kite. It was not my grandfather in 1910, certainly. Perhaps it was an Oriental a couple of thousand years ago, for they have been flying them that long. Kite experiments were never confined to getting a man aloft, but simply in seeing what would fy under various conditions. Thus. the box-kite was invented by an Australian named Lawrence Hargrave in 1893. This is the second most popular kite configuration. It is rectangular with open square ends. the paper or cloth going around the sides of the rectangle, but leaving a middle for the air to flow in. This kite does not need a tail like the diamond kite, since there's an axial alignment to restrain it from yawing and losing its wind.

Kite paper is smooth, tough, and light. Silk is used, too, since it is light, flexible, and doesn't let the wind through. My daughter Betsy and I tried a store-boughten rubbery plastic kite last summer out at the Isles of Shoals. This kite was bat-shaped, and its surface rippled with the back edge of the batwing flapping slightly, which is supposed to be good, aerodynamically. This kite has a keel instead of a tail, and the string is hitched to it. What with the Isles of Shoals nine miles out in the ocean off Portsmouth, New Hampshire, one can count on a good breeze and few obstacles. The first trial we put out half a mile of string as the kite rose over Star Island and then across the cove to Appledore. The second try took the kite up and off to White Island. It was interesting to watch as it went straight up in the air that was to an extent held to the island, and then broke out over the ocean, and finally up again over the other island with its lighthouse. Before we were done we had let out literally a mile of kite-string, and the line was running almost parallel with the surface of the water. We could see the kite, which was well away from where we lost sight of the string.

We were not particularly disappointed to learn that we had set no record, but were interested to learn that experiments using piano wire and a string of kites had run out to a distance of 10 miles. Our kite twine was inexpensive, strong, and offered less aerodynamic drag than thicker piano wire.
There is currently a good deal of kite activity, though it takes open spaces, and is not a city game. About one out of every four or five issues of the Patent Office Gazette lists a new kite derice, some being hardly better than a kid's day-dream of, say, inexpensively casting a fishline where you could not otherwise, or getting lead-strings across bottomless gorges to start bridge-building. Nevertheless, valid meteorological experinents go back to a decade before Franklin's adventure.
Notable among current activities is development of a "parafoll" which combines kite, parachute, and airfoil, which means: it can be controlled from the ground like, a kite; it can be used as a fall-breaking device just as parachutes have been since early ballooning days - in turn, two centuries after da Vinci's sketch; it has manipulable devices which by remote radio control can alter the wing-shaped Rructure's characteristics. Its inventor is Domina Jalbert of Boca Raton, Florida. The possibilities include positioning cargoes in air-
drops of up to 500 pounds, and effecting airplane pickups from ship installations.
If these are too advanced applications, perhaps you can either find the store in New York City (where else?) which specializes in kite supplies, or maybe you might wish to join the International Kitefliers Association (81 Seaview Avenue, Premium Point, N. Y.). But then, it isn't necessary to join anything or seek sophisticated gear. Possibly you may wish to get yourself sponsored, however, by one or more kids. It's more fun that way!


## OLD-FASHIONED PUZZLES

(For answers, see page 120)

I
A monkey and his uncle are suspended at equal distances from the floor at opposite ends of a rope which passes through a pulley. The rope weighs 4 ounces per foot. The weight of the monkey in pounds equals the age of the monkey's uncle in years. The age of the uncle plus that of the monkey equals 4 years. The uncle is twice as old as the monkey was when the uncle was half as old as the monkey will be when the monkey is three times as old as the uncle was when the uncle was three times as old as the monkey was. The weight of the rope plus the weight of the monkey's uncle is one-half again as much as the difference between the weight of the inonkey and that of the uncle plus the weight of the monkey. How long is the rope? How old is the monkey? (courtesy of Sydney H. Batchelder of N. H.)

## II

If a clock-calendar that is on a correct setting on January 1 , 1968 is not re-set at the end of any month with less than 31 days, when will the clock-calendar be again correct? (courtesy of Kelly C. McClure of W. Va.)

## 111

Many years ago, seven traveling gentlemen met by chance at a certain inn where they were so well pleased with their host and each other's company that, in a frolic, they offered the host $\$ 30$ it they could stay at the inn as long as they, together with him, could sit every day at dinner in a different order. The liost, thinking
that they could not sit in many different positions because there were but few of them and that he, himself, would make no considerable alteration, he being but one, imagined that he would make a good bargain as well as be agreeable to his guests. Therefore, he agreed, and so made himself the eighth person. How long did the seven gentlemen stay - and how many different positions did they sit in? (courtesy of Henry R. Palmer, Jr. of Conn.)

## IV

What is the root of this squared square cube: $1027956394402909029-$ 1760390873856 ? (courtesy of Thomas Kilworth of Conn.)

A crescent-shaped area has for its outer boundary a semi-circle of radius one foot and for its inner boundary a quadrant of a larger circle. What is the area of the crescent. in square feet? (courtesy of Theodore W. Gilson of Va.)

## VI

Five ladies, each accompanied by her daughter, bought cloth at the same store. Each of the ten paid as many cents per foot as she bought feet, and each mother spent $\$ .05$ more than her own daughter. Mrs. Robinson spent $\$ 2.88$ more than Mrs. Evans, who spent about a quarter as much as Mrs. Jones. Mrs. Smith spent the most of all. Mrs. Brown bought 21 yards more than Bessie, one of the girls. Annie bought 16 yards more than Mary and spent $\$ 29.12$ more than Emily. The Christian name of the other girl was Ada. What was her surname? (courtesy of Sydney $H$. Batchelder of N.H.)

## VII

In a recent holdup, a bullet struck the face of a clock, hitting the exact center of the dial, driving the post of the hour and minute hands through the works and instantly stopping the clock. The liands were fixed in a straight line. It is assumed that the hands spun about after being welded together by the bullet. Assume that the second hand was runuing in perfect coordination with the minute and hour hands. At what time was the clock stopped if the second hand was on fifty?
(courtesy of B. H. Stanley of N.D.)

## CHARADES, REBUSES, CONUNDRUMS, ENIGMAS, etc.

(For answers, see page 120)

My first, if sou do, you won't liit it:
My next, if you do, you won't leare it;
My whole, if you do, you won't guess it.

## II

I am composed of 19 letters.
$\mathrm{M} \mathrm{Y}^{-} 1,8,3$, and 3 , and 2-your motto these must be;
$10,11,14,16,9$, and' 12 you'll seldom see.
For my 19, 17, 7, 4, how mournful is the sigh!
My 10, 3, 15, 6, and 12-these show a storm is nigh.
In my $3,4,13,1$ and 5 , for the theme I pray you look;
Slip in my 18, then my whole; you'll know it like a book.

III


## IV

What word is there of five letters that, by taking two away, leaves one?

## v

If a bird were sitting on a peach in an orchard and you wanted that peach, low would you procure it without disturbing the bird in any way?

## VI

Let those who have skill to make clear;
Now try to discover my name;
Four brothers $I$ have, and the fifth I appear,
But our age is exactly the same.
Yet I to their stature shall never attain,
Though as fast as them always I grow,
By nature I'm destined a dwarf to remain-
so my ridule gua'll casily ktrow.

We are little airy creatures All of different voice and features;
One of us in glass is set; One of us you'll find in a jet; One of us is set in tin; And the fourth a box is in. If the last you should pursue. It will never fly from you.

## VIII

What is it that occurs once in a minute, twice in a moment, and once in a thousand years?

## IX



## X

I am composed of 5 letters.
My 4, 1, 2, 3, 5, 1s found adjacent to oceans, rivers, and lakes.
My 4, 1, 5 , is a personal pronoun. My 4, $1,2,5$, is an article worn by many persons.
My $1,2,5$, is an implement used by the farmer.
My whole is the name of a useful animal.

## XI

I am composed of 7 letters.
Did you ever hunt my 5, 3, 7, 6? My whole is otten my 1, 2, 4.
My 1, 3, 4, 2, 7 , we could not live without.
My 4, 5, 3, 1 comes in spring.

## XII

What letter in the alphabet is most useful to a deaf woman?

XIII


## XIV

What letter clothes a boy? What letter once brought gloom into the home of all men? What letter makes the truth lucid?

What letter extends skill by two wheels?

What letter clanges a tree into

## DAYS LUCKY OR UNLUCKY

On the right-hand calendar pages (25-47) of this Almanack will be noted occasional entries with regard to certain unlucky days of the year. Sometimes these notations arise from superstitions related to the angles various planets are making with each other; others from various superstitions of the ancients. In 1841, at London, one John Brand, a Fellow and Secretary of the Society of Antiquaries, and Sir Henry Ellis, Librarian of the British Museum, published two books entitled observations on Popular Antiquities. The following text is made up of excerpts taken from a chapter in the second of these two books, of the above title:
"Those observers of time are to be laught at that will not goe out of their house before they have had counsell of their Almanacke, and will rather have the house fall on their heads than stirre if they note some natural effect about the motion of the aire, which they suppose will varie the lucky blasts of the Starres, that will not marry, or traffique or doe the like but under some constellation. These, sure are no Christians: because faithfull men ought not to doubt that the Divine Providence from any part of the world, or from any time whatsoever, is absent. Therefore we should not impute any secular businesse to the power of the Starres, but to know that all things are disposed by the arbitrement of the King of Kings. The Christian faith is violated when, so like a pagan and apostate, any man doth observe those days which are called Aegyptiaci, or the calends of Januarie, or any moneth, or day, or time, or yeere, eyther to travell, marry, or to doe any thing in."

## Melton's Astrologaster

"The perillous days of every month are to be accounted for in this manner. In the change of every moon be two Dayes, ill the which what thing soever is begun, late or never, it shall come to no good end, and the dayes be full perillous for many things. In January, when the moon is three or four days old. In February, 5 or 7. In March, 6 or 7. In April, 5 or 8. May, 8 or 9 . June, 5 or 15. July, 3 or 13. August, 8 or 13. September, 8 or 13 . October, 5 or 12. November, 5 or 9 . In December, 3 or 13 .
"Astronomers say, that six Dayes of the year are perillous of death; and therefore they forbid men to let blood on them, or take any drink: that is to say, January the 3rd, July the 1st, October the 2nd, the last of April, August the 1st, the last day going out of December. These six Dayes with great diligence ought to be kept, but namely the latter three, for all the veins are then full. For then, whether man or beast be knit in them within seven days, or certainly within fourteen days, he shall die. And if they take any drinks within fifteene dayes, they shall die; and, if they eat any goose in these three Dayes, within forty days they slall die; and, if any clild be born in these three latter Dayes, they shall die a wicked death.
"Astronomers and Astrolegers say, that in the beginning of March, the seventh Night, or the fourteenth day, let thee bloud of the right arm; and in the beginning of April, the eleventh Day, of the left arm; and in the end of May, third or fifth Day, on whether arm thou wilt; and thus, of all that year, thou shalt orderly be kept from the fever, the falling gout, the sister gout, and losse of thy sight."

## Book of Knowledge

"Many persons have certain Days of the week and month on which they are particularly fortunate, and others in which they ate as sewelally unfucky. These vays are different to
different persons. Mr. Aubrey has given several instances of both in divers lersons. Some Days, however, are commonly deemed unlucky: among others, Friday labours under that opprobrium; and it is pretty generally held that no new work or enterprise should commence on that day. Likewise, respecting the weather there is this proverb:

Friday's moon,
Come when it will, it comes too soon.'"

## Grose

"In the opinion of the astronomers, these days are unlucky: January 1, 2, 4, 5, 10, 15, 17, 29, very unlucky. February 26 , 27,28 , unlucky ; $8,10,17$, very unlucky. March $16,17,20$, very unlucky. April 7, 8, 10, 20, unlucky; 16, 21, very unlucky. May 3 , 6, unlucky; 7, 15, 20, very unlucky. June 10, 22, unlucky; 4,8 , very unlucky. July 15, 21, very unlucky. August 1, 29, 30, unlucky ; 19, 20, very unlucky. September 3, 4, 21, 23, unlucky; 6,7 , very unlucky. October 4, 16, 24, unlucky; 6, very unlucky. November 5, 6, 29, 30, unlucky; 15, 20, very unlucky. December 15,22 , unlucky ; $6,7,9$, very unlucky."

Grafton's Chronicle, 1565
"Though I think no day amisse to undertake any good entertainment or businesse in hande, yet have I observed some, and no meane clerks, very cautionarie to forbeare these three Mundayes in the yeare, which I leave to thine owne consideration, either to use or refuse; viz., 1. The first Munday in April, which Day Caine was born, and his brother Abel slaine. 2. The second Munday in August, which Day Sodome and Gomorrah were destroyed. 3. The last Munday in December, which day Judas was born, that betrayed our Saviour Christ."
"There is a list given of Lucky Days, which contains all the red letter saints' days of the Reformed English kalendar. We are also informed that there are other days in each month which 'are successful enough.' Thus -
'In January there are three, viz. 16, 18, 26.
In February there are four, viz. 10, 19, 27, 28.
In March there are two, viz. 14, 18.
In April there are three, viz. 13, 22, 27.
In May there are five, viz. 3, 5, 7, 11, 19.
In June there are four, viz. 10, 17, 20, 27.
In July there are six, viz. 1, 13, 19, 21, 27, 30.
In August there are three, viz. 3, 7, 9.
In September there are five, viz. $4,8,11,15,19$.
In October there are three, viz. 1, 8, 13 .
In November there are four, viz. $3,9,11,15$.
In December there are three, viz. 9, 13, 17,'"

## Edward Peacoclo

"Regarders of times, as they are which will have one time more lucky than another: to be borne at one hower more unfortunate than at another: to take a journey or any other enterprize in hand, to be more dangerous or prosperous at one time than at another: as likewise if such a festivall day fall upon such a day of the weeke, or such litwe whall have such a reare following: and many other such like vaine speculations, set downe by our Astrologians, having neither footing in God's Word, nor yet natural reason to support them; but being grounded onely upon the superstitious imagination of man's braine."

## PART THREE ※ergional $\sqrt{ }$ Forecasts

Thus far all the calculations (except for Page 19) in this Almanac have been for Boston. The following pages in this Part III will enable readers to adjust these calculations and weather forecasts for anywhere in the United States.

> 1. Boston-Se Pages $24-46$ and 90
> 2. Northern New England - See Page 91 .
> 3. Southern New England See Page 92 .
> 4. East Except New England - See Page 93 .
> 5. Midwest See Page 96 .
> 6. Great Plains See Pages 102,103 .
> 7. Pacific Northwest - See Pages 102,104 .
> 8. South - See Pages 108,109 .

## DIRECTIONS FOR USING REGIONAL FORECAST PAGES

Simple and easy directions for using the regional forecast pages which follow appear at the top of each of these pages. However, the following additional information which also applies to these pages should be carefully noted.

## Weather Forecasts

The OFA has long been known for its "accurate" weather forecasts. In previous editions these have been made for Boston and New England only, with the proviso these could be used elsewhere by considering the weather as forecast would arrive one day earlier for each Time Zone west of Boston. This year, however, on pages 91-109 you will find separate weather forecasts for seven different regions besides Boston. In reading these forecasts please remember it is impossible today to predict (successfully) the weather for more than a day or two in advance. Every known scientific source for making these 18 -months-in-advance forecasts (we go to press in June) has been used. We suggest they will be more useful as weather trends than for the pinpointing of any particular day's weather.

## Sun Dials

The column headed "Sun Fast" (pages 24-46) is of primary use to sun dial enthusiasts. The figures therein tell how fast on each day the time indicated by a properly adjusted and graduated sun dial will be of the time indicated by a clock. On April 11 sun dial time in Boston will be $15 \mathrm{~min} .(+15)$ FAST of Eastern Standard Time (see page 30). The time difference between clock and sun dial time in other cities (see pages 91-108) will be found by subtracting the value of Key Letter I for that city from the Sun Fast time for Boston (given en pages 24-46). The value of Kicy Letter I for Pittsburgh (see page 93) is -35 min .. so sun dial time in Pittsburgh on April 11 will be 20 min. ( +15 minus 35) SLOW of clock time.

## Length of Day

The "Length of Day" for Boston (pages 24-46) tells how long the sun will be above the horizon. It is found by subtracting the time of sunrise from that of sunset for each locality. For other cities, see pages 91-108. For these, after you have determined sunrise and sunset times, subtract the one from the other and you have the length of day.

## Moonrise and Moonset

For greater accuracy, include the Constant Additional Correction below.

| Longitude of Place | 580 $-77^{\circ} \mid$ | $77^{\circ}-90^{\circ}$ | $90^{\circ}-103^{\circ}$ | $\left\|103^{\circ}-116^{\circ}\right\|$ | $\left\|116^{\circ}-128^{\circ}\right\|$ | $128^{\circ}-142^{\circ}$ | $142^{\circ}-155^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Correction | ${ }_{0}^{19}$ | m +1 | $\begin{array}{r}\text { m } \\ +2 \\ \hline\end{array}$ | m +3 | $m$ +4 | $m$ +5 | $m$ +6 |
| BOSTON |  |  |  | PITTSBURGH <br> (Longitude $80^{\circ} 00^{\prime} \mathrm{W}$.) |  |  |  |
| $\begin{aligned} & \text { Moonrise (Apr. 11) } 4 . \\ & \text { Key Letter } \end{aligned}$ |  | $\text { L. } 44 \text { P.M., E.S.T. }$ |  |  |  |  |  |
|  |  | Moonrise (Boston) <br> Correction (I from page 93) <br> Constant Additional Correction |  |  |  |
|  |  | +. 35 |  |  |  |  |  |
|  |  | +. 01 |  |  |  |  |  |
|  |  | Moonrise | (Pittsburgh) | 5.20 | ., E.S.T. |
| Moonset <br> Key Letter | 4.27 A.M., E.S.T. |  |  | Moonset (Boston) Correction ( J from page 93) <br> Constant Additional Correction |  | 4.27 A.M. |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  | $\underline{+.01}$ |  |
|  |  |  |  |  |  | Moonset (Pittsburgh) |  | ) $\overline{5.01 \mathrm{~A}}$ | I., E.S.T. |

## Moon's Place and Age

The moon's place and age is contained on the left-hand Calendar Pages (24-46). This information applies without correction throughout the United States.

## Risings and Settings of the Planets

The times of rising and setting of naked-eye planets, with the exception of Mercury, are given for Boston on pages 48-49. To convert these times to those of other localities (pages $91,93,96,102,108$ ), follow the same procedure as that given on those pages for finding the times of sunrise and sunset.

## Dawn and Dark

The approximate times dawn will break and dark descend are found by applying the length of twilight taken from the table below to the times of sunrise and sunset at any specific place. The latitude of the place (see pages $91,93,96,102,108$ ) determines the column of the table below from which the length of twilight is to be selected.


## DETERMINATION OF EARTHQUAKES

Note, in this Almanac, on right hand pages, 25-47, the dates when the moon $\left[\mathbb{C}_{\text {high }}^{\text {runs }}\right]$ or $\left[\mathbb{C}_{\text {low }}^{\text {rides }}\right]$. Beginning with the date of the high is the most likely five day earthquake period in the northern liemisphere, with the low in the southern hemisphere. You will also find on these pages a moon on the Equator notation [ $\mathbb{C}_{\mathrm{Eq}}^{\mathrm{on}}$ ]. twice each month. At this time, in both hemispheres, is a two-day quake period.

## Continued from page 90

Dec.: Arg. temp. $30.8^{\circ}$ (normal

Nov.: Avg. temp. normal $41.3^{\circ}$. Prec. $3.84^{\prime \prime}$ (normal 4.14"). Snow 2.4". A major coastal storm will come in from the northeast between the 21 st and 30 th . Another from the West shows up (10-13) with some snow. The one $3-5$ is annoying but harmless.
$29.8^{\circ}$ ). Prec. $3.42^{\prime \prime}$ (normal $3.99^{\prime \prime}$. Snow $8^{\prime \prime}$. First week clear, then ( $7-11$ ) a cold storm with rain. sleet, and snow. The periods 14-16 and 19-21 are rain. The final storm ( $24-31$ ) is a heavy snowstorm which tapers off with sleet or rain.

## 1. BOSTON WEATHER FORECAST <br> Verification Base: U.S.W.B. Station at Blue Hill, Mass.

THE YEAR (JAN. - DEC. 1968)
Boston's temperature this year is very close to normal, $48.2^{\circ}$ (normal is $48.4^{\circ}$ ). Precipitation is a normal 48.65". The Christmas storm of 1967 (23-31) is a "whopper" - and so too is a blizzard during the last week in January. In February, the second week holds a northeast storm with snow - but the last week of that month has the cold, white-powder ty pe. March 5 to 11 will bring a lot of snow. Between April 12 and 18 look for the year's worst storm. A violent thunderstorm is expected during the last week of April. In a cool August, the line storm between the 21st and 27 th is no help - especially for tourists. Between September 19 and 25 a hurricane (or close to it) may come in from the Carolinas. The last week of Norember, 1968 has a major coastal storm in it, and the last week of December will keep a lot of people home for Christmas.

THE WINTER (NOV. 1967-APRIL 1968)
With a slightly below-normal temperature of $33.17^{\circ}$ (normal is $34.0^{\circ}$ ) and near normal precipitation of $24.28^{\prime \prime}$ (normal is $24.82^{\prime \prime}$ ), it would uot seem that Boston has too much to worry about. However, a very cold January ( $22.3^{\circ}$ ) is indicated - and almost $20^{\prime \prime}$ more of snow (total $76^{\prime \prime}$ ) than normal (which is $57.2^{\prime \prime}$ ). January and February will be more snowy than the other months. Month by month forecasts follow with the major storms indicated within each month.

Nov. 1967: Ayg. temp. $40.3^{\circ}$. Rain $4^{\prime \prime}$. Snow $2^{\prime \prime}$. Storms may be expected during the first week and the last week, the latter bringing some snow.
Dec. 1967: Avg. temp. $29.8^{\circ}$. Prec. $3.71^{\prime \prime}$. Snow $15^{\prime \prime}$. The first few days of December will be stormy. It will not be entirely clear (7-14), but wateh out for a "whopper" with rain and snow over Christmas (23-31).
Jan. 1968: Avg. temp. $22.3^{\circ}\left(4^{\circ}\right.$ below normal). Prec. 4.36". Snow $20^{\prime \prime}$. Rain and snow (510), thaw with rain (18-23), possible blizzard (24-31). Only good week looks tike the 11th through 17th.
Feb.: Avg. temp. $27.3^{\circ}$. Prec. $3.66^{\prime \prime}$. Snow $20^{\prime \prime}$. The second week (8-15) will bring a coastal. heavy, wet storm, whereas the last week ( $22-29$ ) will carry a cold blizzard in frow the West.
Mar.: Avg. temp. $34.7^{\circ}$. Prec. 4.42". Snow $15^{\prime \prime}$. This first storm ( $5-11$ ) could be the heary one and carry most ( $10^{\prime \prime}$ ) of the snow. Of the other two (18-23) and (27-31), the final oue will be the wettest.
Apr.: Arg. temp. $44.6^{\circ}\left(1.6^{\circ}\right.$ above normal). Prec. $4.72^{\prime \prime}$. Snow $4^{\prime \prime}$. The snow will come between the 12 th and 18th. This could be one of the year's worst storms. However, that of $5-8$ will he really wet, and that of the $25-$ 30 marked by at least one violent thunderstorm with high winds.
May: Avg. temp. 55.7 (normal $56.7^{\circ}$ ). Prec. $3.82^{\prime \prime}$ (normal 3.5").

There will be four raiuy spells $(4-8)$, $(11-17)$, ( $22-25$ ) and ( $27-$ 31). More rain will be iu the first and last of these than in the other two.
June: Avg. teup, 67.4 (normal $65.4^{\circ}$ ). Rain $4.03^{\prime \prime}$ (normal 3. $41^{\prime \prime}$ ). Two heavy rains - one between the 11th and 13 th , and another between the 23 rd aud 28 th. The second one will be heavier than the first.

July: Ayg. temp, normal $71^{\circ}$. Rain noriual 3.10". Expect showers ( $1-3$ ), $(1+16)$, and ( $29-26$ ). The last will carry more rain than the others. The only protracted rainy spell is from the 6 th to 10 th.
Aug.: Avg. temp, 66.2 (normal $69.2^{\circ}$ ). Rain $4.47^{\prime \prime}$ (uormal 4.04"). The shower 1-2 is uot too heavy that of $1+16$ is not too bad. However, hetween the 6th and 11th it will be cold and uncomfortable in any summer cottage or camp. A so-called "line storm" is expected hetween the 21 st and 27 th - a real "humdinger."
Sept.: Avg. temp. $63.5^{\circ}$ (normal $62.5^{\circ}$ ). Rain uoriual $4^{\prime \prime}$. Spells of rain (2-5), (13-15), and (2730). Hurricaue or close to it between the 19 th and 25 th.
Oct.: Avg. temp. $53.3^{\circ}$ (uormal $52.3^{\circ}$ ). Rain $4.29^{\prime \prime}$ (norual $3.82^{\prime \prime}$ ). Four storms all about the same, $(4-7),(12-15),(17-19)$, and (28, 30). However. that between the 17 th and 19 th may be heavier than the other three.

Continued on page s9

## Table for Adjusting Sun, Moon, Planet Times on Pages 24-46, 48

## 2.-3. NEW ENGLAND (EXCEPT BOSTON)

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in New England except Boston. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M. Key Letter N. Key Letter N for Presque Isle (last col. below) shows +4. So sunrise at Presque Isle will be 7:16 A.M. If a city is not listed, interpolate between nearest two cities. (Further explanations a ppear on pages 88 and 89.)

| City | State | Lati- <br> tude, |  | Time Used | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{m}{\mathrm{~A}-\mathrm{D}}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathbf{H}}$ | $\underset{\mathrm{m}}{\mathrm{~m}}$ | $\underset{\mathbf{m}}{\mathbf{J}-\mathbf{M}}$ | $\underset{\mathrm{m}}{\mathrm{~N}-\mathrm{Q}}$ |
| Bridgeport | Conn. | 41 | 10 |  | EST | $+13$ | +10 | $+9$ | + | $+4$ |
| Hartford-New Britain. | Conn. | 41 | 46 | EST | +9 +9 | + 7 | + 9 | +6 | + |
| New Haven....... | Conn. | 41 | 18 | EST | +11 | +9 | $+7$ | +6 | +5 +4 |
| Norwalk-Stamford | Conn. | 41 | 03 | EST | +14 | +11 | $+10$ | + | +5 +5 |
| Waterbury-Meriden | Conn. | 41 | 33 | EST | +10 | +8 | + 7 | +8 +6 | +4 +4 |
| Augusta. | Maine | 44 | 19 | EST | $-12$ | $-7$ | - 5 | - 3 | +2 |
| Bangor | Maine | 44 | 48 | EST | $-18$ | $-12$ | - 6 | -6 | 0 |
| Eastport | Maine | 44 | 56 | EST | -26 | -19 | $-16$ | -13 | $-7$ |
| Ellsworth | Maine | 44 | 30 | EST | $-19$ | $-13$ | $-16$ | -13 | - 2 |
| Portland | Maine | 43 | 39 | EST | - 8 | - 5 | - 3 | - 2 | $+2$ |
| Presque Is | Maine | 46 | 40 | EST | -29 | $-17$ | $-13$ | $-7$ | + 4 |
| Brockton. | Mass. | 42 | 05 | EST | +1 | 0 | 0 | $-1$ | - 1 |
| Fall River-N. Bedford. | Mass. | 41 | 42 | EST | +3 | +1 | 0 | 0 | - 2 |
| Lawrence-Lowell. . . . | Mass. | 42 | 42 | EST | + 1 | + 0 | +1 | +1 | +2 |
| Pittsfield. | Mass. | 42 | 27 | EST | +8 | +9 | +9 | + 9 | + 9 |
| Springfleld-i̇olyoke. | Mass. | 42 | 06 | EST | +7 +7 | +6 +6 | +6 +6 | +6 | + 5 |
| Worcester. | Mass. | 42 | 16 | EST | +3 | + +3 | $+3$ | +3 +3 | +3 |
| Berlin | N. H. | 43 | 58 | EST | -8 | - 3 | + | +2 | +8 |
| Keene. | N. H. | 42 | 50 | EST | $+5$ | $+6$ | $+7$ | +8 | +9 |
| Manchester-Concord | N. H. | 42 | 59 | EST | - 1 | +1 | + 2 | +3 | + 4 |
| Portsmouth. | N. H. | 43 | 10 | EST | - 4 | - 2 | - 1 | 0 | +1 |
| Providence | R. I. | 41 | 50 | EST | +3 | +3 | $+1$ | +11 |  |
| Brattleboro | Vt. | 42 | 50 | EST | +3 +3 | + 5 | 0 | +11 | $+5$ |
| Burlington | Vt. | 44 | 28 | EST | +1 | +6 | $+9$ | $+11$ | $+17$ |
| Rutland. | Vt. | 43 | 35 | EST | +3 | +6 +6 | +8 | +9 | $+12$ |
| St. Johnsbury . . . . . . . | Vt. | 44 | 25 | EST | - 4 | +11 | + 4 | +6 | +12 |

## 2. NORTHERN NEW ENGLAND WEATHER FORECAST

Verification Base: Burlington, Vermont. However, this forecast has general reference to Maine, New Hampshire, and Vermont and should be adjusted to higher altitudes for the ski resorts.

## THE YEAR (JAN.-DEC. 1968)

With normal temperature (44.6.), the North Country should be able to have its one day of spring again. Precipitation of $34^{\prime \prime}$ is slightly below the normal $35.17^{\prime \prime}$. Apart from storms of snow in the first and fourth weeks of November, 1967 - and the second and fourth weeks of December - a blizzard will come in January (24-31), 1968. Considerable snow is also in the two February storms (8-10 and 13-15). March will hold a near-blizzard (5-11), and April 12 to 18 the rainstorm of the year. August 21 through 27 has a bad storm of rain, as does September 19-24.

## THE WINTER (NOV. 1967-APR. 1968)

With colder (especially January) temperature ( $26.3^{\circ}$ versus a normal of $28.2^{\circ}$ ) and slightly higher than normal precipitation (12.91" versus a normal of $12.58^{\prime \prime}$, this area will receive just slightly less snow than its normal of $86^{\prime \prime}$. However, the total will be over $80^{\prime \prime}$ and the skiing should be continuous and good from December through March.

Nov. 1967: Avg. temp. $35.9^{\circ}$. Prec. 2.66". Snow $4^{\prime \prime}$. Stormy first and last weeks, with snow end of month.
Dec. 1967: Avg. temp. 23.4 ${ }^{\circ}$. Prec. 1.81". Snow 18". Two big storms (second and fourth weeks).

Jan. 1968: Avg. temp. $15.4^{\circ}$ (2.8 ${ }^{\circ}$ below normal). Prec. $1.85^{\prime \prime}$ Snow $20^{\prime \prime}$ or more. Should be good skiing at higher elevations in this area all month. Snow 5-10. Blizzard 24-31.
Feb.: Avg. temp. 19.4 ${ }^{\circ}$. Prec.
1.57". Snow $25^{\prime \prime}$. The storm which hits Boston hard during the second week (8-15) will be towards the first part of the week here. It will be followed by a second one the latter part of the week, at Burlington, which will carry more snow than the one during the 22 nd to 29 th .
Mar.: Avg. temp. $29.5^{\circ}$. Prec. 2.22" Snow 14". The storm 5-11 carries most of the snow in nearblizzard conditions. The other two (18-23 and 27-31) should not be too bad.
Apr.: Avg. temp. $44.3^{\circ}$. Prec. $2.93^{\prime \prime}$. Heavy rains ( $5-8$ ). Storm of the year 12-18, but little if any snow. Heavy rains again, end of month.
May: Avg. temp., $54.5^{\circ}$ (normal $55.1^{\circ}$ ). Rain $3.24^{\prime \prime}$ (normal $2.97^{\prime \prime}$ ). Four rainy spells ( $4-8$ ), ( $11-17$ ). (22-25), and (27-31), with about twice as much rain in the first and last as in the other two.
June: Avg. temp, $66.8^{\circ}$ (normal $64.8^{\circ}$ ). Rain $4.10^{\prime \prime}$ (normal 3.46"). Two heavy rainstorms - one between 11-13 and another $22-$ 27. Bridal parents, however, should also consider tents for marriages between 6-8, 16-17, and on the 20th.

July: Avg. temp. normal $69.6^{\circ}$. Rain normal 3.61". Storm of rain ( $6-10$ ), heary showers ( $1-$ 3), (14-16), and (22-26).

Aug.: Avg. temp. $64.3^{\circ}$ (normal $67.3^{\circ}$ ). Rain $3.70^{\prime \prime \prime}$ (normal 3.42"). Showers 1-2 and 14-16. Heavy rain 6-11. Bad storm 21-27.
Sept.: Avg. temp. $60.7^{\circ}$ (normal 59.7 ${ }^{\circ}$. Rain normal 3.33". Spells of rain (2-5), ( $13-15$ ) and ( $27-$ 30). Downpour between the $19 t h$ and 24 th.
Oct.: Avg. temp. $49.9^{\circ}$ (normal $48.9^{\circ}$ ). Rain $3.20^{\prime \prime}$ (normal 2.91"). Four normal rainstorms, all the same: (4-7), (12-15), (17-19), and (28-30).
Nov.: Avg, temp. normal $36.8^{\circ}$. Prec. 2.5" (normal 2.66"). Snow $6^{\prime \prime}$. Three storms - 3-5, 10-13, and 21-30. Of these, the last will be rough with snow, the middle one cold and blustery, the first one just a normal rain.
Dec.: Avg. temp. ${ }^{24.4^{\circ}}$ (normal $23.4^{\circ}$ ). Prec. $1.70^{\prime \prime}$ (normal 1.95"). Snow $10^{\prime \prime}$. Not much good sking until final week $(24-31)$, when there will be a heavy snowstorm. Some snow will also fall between the 7 th and 11th, but only sleet and rain seem to be in the other two storms (14-16 and 19-21).

## 3. SOUTHERN NEW ENGLAND WEATHER FORECAST

Verification Base: Providence, R. I. However, this forecast is meant to cover Cape Cod, most of Connecticut, and New York City-and even down to Washington, D. C. This area is affected by northeasterly storms, and some from the Carolinas or the Ohio "channel."

## THE YEAR (JAN.-DEC. 1968)

Normal temperature of $50.5^{\circ}$ will prevail but precipitation will be $41.71^{\prime \prime}$ - or $2.08^{\prime \prime}$ below normal (43.79"). The last week of December, 1967, will bring hazardous travel conditions, as will the last week of January, 1968. In April, between the 12th and 18 th, a storm of lurricane proportious is expected. In August (21-27), a dangerous line storm precedes a, possible hurricane between September 19 and 25. There is "trouble" between November 10 and 13 - and stay home for Christmas.

## THE WINTER (NOV. 196\%-APRIL 1968)

Winter temperature will be $36.1^{\circ}$ which is just a little below normal ( $36.7^{\circ}$ ). Precipitation will be a bit higher - $20.58^{\prime \prime}\left(20.49^{\prime \prime}\right.$ normal). Snow will be above normal ( $45^{\prime \prime}$ against $34^{\prime \prime}$ normal).

Nov. 1967: Avg. temp. $42.4^{\circ}$. Rain $3.39^{\prime \prime}$. No snow. Stormy first and last weeks.
Dec. 1967: Avg; temp. $31.4^{\circ}$. Prec. 3.25". Snow 5". Rain 1-3. Heavy storm with some snow last week.
Jan. 1968: Avg. temp. $25^{\circ}$ (4.5 ${ }^{\circ}$ below normal). Prec. $3.81^{\prime \prime}$. Snow $15^{\prime \prime}$. Most of this snow
will fall during the last week. Good skating first two weeks and skiing all month ligh elevations western Mass. and northern Conn.

Feb.: Avg. temp. $30.6^{\circ}$. Prec. $3.04^{\prime \prime}$. Snow $15^{\prime \prime}$. Most of this snow will fall in the second week (8-15) but there will be some, mixed with rain $22-29$.

Mar.: Arg. temp. $37.7^{\circ}$. Prec. $3.72^{\prime \prime}$. Snow $10^{\prime \prime}$. The storm $\overline{5}$ 11 will be the coldest and carry most of the snow. However, that of the 18th to 23 rd will be the wettest.
Apr.: Avg. temp. $49.4^{\circ}$ ( $1.9^{\circ}$ above normal). Rain $4.3 t^{\prime \prime}$. The rain will be heaviest $5-8$, and the storm 12-18 near hurricane proportions. The last one (2530) wet but not dangerous.

May: Avg. temp. $57^{\circ}$ (normal $58^{\circ}$ ). Rain $3.32^{\prime \prime}$ (normal 3.64"). As at Boston and Burlington, four rainy spells (4-8), (11-17), (22-25), and (27-31), with less rain in the middle two than in the first and last.
June: Avg. temp. $69^{\circ}$ (normal $67^{\circ}$ ). Rain $3.41^{\prime \prime \prime}$ (normal 2.89"). Two New England-wide storms (11-13 and 23-27) will also hit this area hard. Garden and bridal parties may also need tents $6-10,16-17$ and the 20 th.
July: Avg. temp. normal $72.6^{\circ}$. Rain normal 3.10". Storm of rain $6-10$ : heary showers 1-3, 14-16, and 22-26.
Aug.: Avg. temp. $67.5^{\circ}$ (normal $70.7^{\circ}$ ). Rain $4.0^{\prime \prime}$ (normal 3.59"). Shower (1-2); heavier shower
(14-16) ; storm of rain (6-11). "Line storm" (21-27) with high winds - dangerous.

Sept.: Arg. temp. $64.8^{\circ}$ (normal $63.8^{\circ}$ ). Rain normal $3.31^{\prime \prime}$. Rainy spells (2-5), (13-15), and (2730). Hurricane or heary tropical storm between 19th and $24 t h$.
Oct.: Arg. temp. $55^{\circ}$ (normal $54^{\circ}$ ). Rain $3.3 \overline{5}^{\prime \prime}$ (normal $3.03^{\prime \prime}$ ). Fairly heary rain (17-19three other unexciting but wet ones (4-7), (12-15) and (28-30).
Nov.: Avg. temp. normal $43.4^{\circ}$. Rain 2.6" (normal 3.3"). Three storm periods this month. The first ( $3-5$ ) is no threat. The second ( $10-13$ ) is not anything for small boats to be out in. The last one (21-30) is a cold, blustering, soaking northeaster.
Dec.: Avg. temp. $33.5^{\circ}$ (normal $32.5^{\circ}$ ). Prec. $3.0^{\prime \prime}$ (normal $3.5^{\prime \prime}$ ). Snow $5^{\prime \prime}$. Four storms are expected. The first (7-11) carries rain, sleet, and snow. Those of the $14-16$ and $19-21$ bring rain (the first more than the second). The last storm (24-31) will make Christmas travel difficult with its rain, sleet, and snow.

## 4. EASTERN STATES (EXCEPT NEW ENGLAND)

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Eastern States, except New England. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M., Key Letter N. Key Letter N for New York City (last col. below) shows +6 . So sunrise New York City would be $7: 18$ A.M. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

| City | State | Latitude, | $\begin{aligned} & \text { Time } \\ & \text { Used } \end{aligned}$ | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} \mathrm{A}-\mathrm{D} \\ \mathrm{~m} \end{gathered}$ | $\begin{gathered} \mathrm{E}-\mathrm{H} \\ \mathrm{~m} \end{gathered}$ | $\mathbf{I}$ | $\begin{gathered} \mathrm{J}-\mathrm{M} \\ \mathrm{~m} \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{N}-\mathrm{Q} \\ \mathrm{~m} \end{gathered}$ |
| Wilmington | Del. | 3945 | EST | +27 | +21 | +18 | 15 | $+9$ |
| Washlngton | D. C. | 3854 | EST | +35 | +28 | +24 | +20 +19 |  |
| Baltimore | Md. | $\begin{array}{ll}39 & 17 \\ 39\end{array}$ | EST | +32 +36 | +26 +30 | +22 +27 | +19 +24 |  |
| Hagerstow | Md. | 39 <br> 38 <br> 38 | EST | +31 +31 | +22 | +18 | +14 |  |
| Albany | N. ${ }^{\text {Y }}$ | $42 \quad 39$ | EST | $+10$ | +10 | +11 | +11 |  |
| Alnghamp | N. Y. | 4206 | EST | +20 | $+20$ | +19 | +19 |  |
| Buffalo | N. Y. | 4300 | EST | $+26$ | +29 | -31 | -33 |  |
| New Yor | N. Y. | $40 \quad 45$ | EST | $+17$ | -13 | -12 | +10 |  |
| Ogdensbur | N. Y. | $\begin{array}{ll}44 & 45 \\ 43 & 03\end{array}$ | EST | +88 | +15 +20 | -18 +20 | +21 | -27 +23 |
| Syracuse. | N. J. | $\begin{array}{ll}39 & 03 \\ 39 & 22\end{array}$ | EST | +24 | +17 | +13 | +10 | + +8 |
| Camden. | N. J. | $39 \quad 57$ | EST | $+24$ | +19 | $+16$ | +13 | +818 |
| Cape May | N. J. | 3905 | EST | +27 | +19 | $+15$ | + |  |
| Newark-Irvington- | N. J. | $40 \quad 44$ | EST | +18 | +14 | +12 | +11 |  |
| Paterson.. | N. J. | $40 \quad 55$ | EST | +17 | +14 | +12 | +11 |  |
| Trenion. | N. J. | $40 \quad 13$ | EST | $+21$ | +17 | $+15$ | +12 | $\pm$ |
| Allentown-Bethiehem. | Pa. | $40 \quad 36$ | EST | +23 +37 | +19 +36 | +17 +36 | +15 +36 | +11 |
| Erie. | Pa. | $\begin{array}{ll}42 & 07 \\ 40 & 16\end{array}$ | EST | +37 +31 | +36 +26 | +36 +23 | +36 +21 | +35 |
| Lancaster. | Pa . | $40 \quad 02$ | EST | +29 | +24 | +21 | +18 | 3 |
| Philadelphia-Chester.. | Pa . | 3957 | EST | +25 | +20 | +1 | +14 |  |
| Pittsburgh- McKeespo | Pa. | $40 \quad 26$ | EST | +42 | $+38$ | $+35$ | +33 | +29 |



Continued from page 93

\section*{| Pa. | 40 | 20 | EST | +26 | +22 | +19 | +17 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Pa. | 41 | 25 | EST | +23 | +20 | +19 | +18 |
| Pa. | 39 | 58 | EST | +31 | +25 | +23 | +20 |
| Va. | 38 | 02 | EST | +43 | +34 | +30 | +25 |
| Va. | 36 | 31 | EST | +49 | +38 | +32 | +26 |
| Va. | 36 | 51 | EST | +37 | +27 | +21 | +15 |
| Va. | 37 | 32 | EST | +40 | +31 | +25 | +20 |
| Va. | 37 | 16 | EST | +51 | +41 | +35 | +30 |
| Va. | 39 | 13 | EST | +38 | +32 | +28 | +25 |
| W.Va. | 38 | 21 | EST | +54 | +46 | +42 | +38 |
| W. Va. | 39 | 21 | EST | +52 | +45 | +42 | +38 |
| RORECAST FOR THE EAST |  |  |  |  |  |  |  | (EXCEPT NEW ENGLAND)}

Verification Base: Pittsburgh, Pa. However, this forecast goes for upper New York, northern Pennsylvania, Ohio, northern New Jersey, and overlaps with that of southern New England for Washington, D. C., Virginia, Delaware, and West Virginia when the storms are from the west rather than south.

THE YEAR (JAN.-DEC. 1968)
Temperature will be normal, which is $49.8^{\circ}$. Precipitation is just a little down, $35.48^{\prime \prime}$ against the normal $36.0^{\prime \prime}$. Bad storms, with snow, come during the second week of December, 1967, the last week of January, 1968, and the second week of February. A dangerous storm of rain and wind happens between April 12 and $18-$ also in two periods of June (11-13 and 20-22). The last week in November, 1968 has rain, sleet, and snow - and travel over Christmas will be hazardous.

THE WINTER (NOV. 196z-APRIL 1968)
Close to normal temperature of $38.1^{\circ}$ versus $38.5^{\circ}$ (normal), precipitation $16.98^{\prime \prime}$ (normal $16.74^{\prime \prime}$ ), and $42^{\prime \prime}$ of snow against a normal of $35^{\prime \prime}$.

Nov. 1967: Avg. temp. $42.4^{\circ}$. Rain 2.23". Snow 2". Storm first week heavier than Boston, but lighter in last week (with snow).
Dec. 1967: Avg. temp. $33.7^{\circ}$. Prec. 2.48". Snow $8^{\prime \prime}$. Bad storms second week with some snow.
Jan. 1968: Avg. temp. 26.2 $2^{\circ}$ (3.7 ${ }^{\circ}$ below normal). Prec. 3.06'. Snow 10". Almost all of this snow will come in during the last week. Other storms are minor.
Feb.: Avg. temp. $32.7^{\circ}$. Prec. 2.38". Snow 12". Heavy storm with snow latter part of second week, and one with more wind, but less snow, last week.
Mar.: Avg. temp. $40.1^{\circ}$. Prec. $3.40^{\prime \prime}$. Snow $10^{\prime \prime}$. The storm 5-11 will be the one of the year here. with the other two (18-23 and 27-31) heavy but not dangerous.
Apr.: Avg. temp. 53.2 ${ }^{\circ}$ Rain 3.79" The storm between the 12 th and 18th will be heavy, windy, wet, and dangerous. Rest of the month looks fine.
May: Avg. temp. 61.2 (normal $62.3^{\circ}$ ). Rain $3.55^{\prime \prime}$ (normal 3.25"). Storms and showers during the first week will bring lots of rain. Froin the 11th to the 17 th , look for two separate storms with some clear weather between the two. Showery and wet $21-24$, but heavy rains as the month ends.

June: Avg. temp. $73^{\circ}$ (normal $70.8^{\circ}$ ). Rain 4.41" (normal 3.73"). Nothing much to worry about except between the 11th and 13 th and the 23 r d to 27 th , when it will rain cats and dogs.
July: Avg. temp. normal $74.8^{\circ}$. Rain normal 4.0". Almost half of this rain comes in $6-10$. Showers $(1-3),(14-16)$, and a heavy one ( $23-26$ ).
Aug.: Avg. temp. $70^{\circ}$ (normal $73^{\circ}$ ). Rain $3.5^{\prime \prime}$ (normal $3.16^{\prime \prime}$ ). Warm storms (5-11 and 21-27).
Sept.: Arg. temp. 67.8 (normal $66.8^{\circ}$ ). Rain normal $2.56^{\prime \prime}$. Storms of rain $(2-5),(13-15)$. (19-25), and $(27-30)$. The third will be the heaviest.
Oct.: Avg. temp. $56.4^{\circ}$ (normal $55.4^{\circ}$ ). Rain $2.70^{\prime \prime}$ (normal $2.4^{\prime \prime \prime}$ ). Four spells of rain - all about the same - $(4-7), \quad(12-15), \quad(17-$ 19) and (28-30).

Nov.: Avg; temp. normal $43.4^{\circ}$. Prec. 3.5" (normal 2.2"). Snow $3.5^{\prime \prime}$. Drizzles some 3-5. Between the 10 th and 13 th - and again between the $21 s t$ and 30thexpect cold heavy rain, some sleet, and some snow.
Dec.: Avg. temp. 34.7 (normal $33.7^{\circ}$ ). Prec. $2.30^{\prime \prime}$ (normal $2.67^{\prime \prime}$ ). Four storms this montl all of about equal intensity : $(7-11)$, (14-16), $(19-21),(24-31)$. Some snow and sleet will accompany the first and last. Christmas travel will be hazardous.


## WHEN THINKING OF FRANKLIN STOVES... consult PRESTON Distributing Co.




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We are U. S. Agents for the attractive, cast iron, free standing fireplace by JOTUL, Oslo, Norway.

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## for all Franklin Stoves or Fireplaces

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## 5. MIDWESTERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Midwest. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A. M., Key Letter N. Key Letter N for Chicago (last col. below) shows +4 . So sunrise at Chicago will be 7:16 A.M., CST. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

| City | State | Latitude, |  | $\begin{aligned} & \text { Time } \\ & \text { Used } \end{aligned}$ | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} \mathrm{A}-\mathrm{D} \\ \mathrm{~m} \end{gathered}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathrm{H}}$ | $\begin{aligned} & \mathrm{I} \\ & \mathrm{~m} \end{aligned}$ | $\frac{\mathbf{J}-\mathrm{M}}{\mathbf{m}}$ | $\begin{aligned} & \hline \mathbf{N - Q} \\ & \mathrm{m} \end{aligned}$ |
| Cairo | Ili. | 37 | 05 |  | CST | +30 | +18 | +12 | + 7 | - 5 |
| Chicago-Oak Park | III. | 41 | 52 | CST | + 7 | +6 | +5 | + 5 | + 4 |
| Danville. | III. | 40 | 07 51 | CsT | +13 +20 | +88 | +5 | a +3 +9 | + 2 |
| E. St. Lo | III. | 38 | 38 | CST | +29 | +21 | +17 | +12 | + |
| Peorla. | 111. | 40 | 42 | CST | +20 | +16 | +14 | +12 | + 7 |
| Rockfor | Iil. | 42 | 17 | CST | +12 | $+12$ | +12 | +12 | +12 |
| Springflel | III. | 39 | 48 | CST | +23 | +17 | +14 | +12 | +6 |
| Fort Way | 1nd. | 41 | 04 | EST | +61 | +58 | +56 | $+55$ | +52 |
| Gary..... | Ind. | 41 39 | 36 46 | CST | +7 +69 + | +66 | +5 +60 | +4 +57 | + ${ }^{2}$ |
| Muncie. | Ind. | 40 | 11 | EST | +65 | +60 | +57 | +55 | +50 |
| South Bend | Ind. | 41 | 41 | CST | +3 | +2 | +1 |  | + 2 |
| Terre Haute | Ind. | 39 | 28 | CST | +15 | +8 | + 5 | $+2$ | - 5 |
| Councli Bluff | Iowa | 41 | 16 | CST | +43 | +40 | +39 | +38 | +35 |
| Davenport | Iowa | 41 | 31 | CST | +21 | +19 | +18 | $+17$ | +15 |
| Des Moine | Iowa | 41 | 35 | CST | +33 | +31 | +30 | $+29$ | +27 |
| Dubuque | Iowa | 42 | 30 | CST | +18 | +18 | +18 | +19 | +19 |
| Sioux City | Iowa | 42 | 30 | CST | +41 | +41 | +41 | +41 | +42 |
| Waterloo | Iowa | 42 | 29 | CST | +25 | $+25$ | +25 | +25 | +26 |
| Fort Scott | Kans. | 37 | 55 | CST | $+49$ | $+39$ | +34 | +30 | +20 |
| Liberai. | Kans. | 37 | 03 | CST | +77 | $+65$ | +60 | +54 | +42 |
| Oakiey | Kans. | 39 | 07 | MST | +10 | +3 | -1 | - 4 | -12 |
| Salina. | Kans. | 38 | 53 | CST | +58 | +50 | +46 | +42 | +34 |
| Topeka | Kans. | 39 | 03 | CST | +49 | +42 | +38 | +35 | +27 |
| Wichita | Kans. | 37 | 42 | CST | +60 | $+50$ | +45 | +40 | +30 |
| Cheboygan | Mich. | 45 | 40 | EST | +41 | +50 | +54 | $+57$ | +66 |
| Detroit-Dear | Mich. | 42 | 20 | EST | +48 | +48 | +48 | +48 | +48 |
| Flint.. | Mich. | 43 | 01 | EST | +48 | $+50$ | +51 | +51 | +53 |
| Grand Rapi | Mich. | 42 | 58 | EST | +56 | +58 | +58 | +59 | +61 |
| Ironwood | Mich. | 46 | 40 | CST |  | +11 | +16 | +21 | +32 |
| Jackson. | Mich. | 42 | 15 | EST | +54 | +53 | +53 | +53 | +53 |
| Kalamaz | Mich. | 42 | 17 | EST | +58 | +58 | +58 | +58 | +58 |
| Lansing. | Mich. | 42 | 44 | EST | +53 | +54 | +54 | +54 | +55 |
| Pontiac. | Mich. | 42 | 40 | EST | +48 | +49 | +49 | +49 | +50 |
| Traverse C | Mleh. | 44 | 50 | EST | +49 | +55 | +58 | +61 | +67 |
| Aibert Lea | Minn. | 43 | 40 | CST | $+25$ | +28 | +29 | +31 | +34 |
| Bernidji. | Minn. | 47 | 30 | CST | +15 | +29 | +35 | +42 | +56 |
| Duiuth. | Minn. | 46 | 47 | CST | + 7 | +19 | +24 | $+30$ | +42 |
| Minneapois-St. Paul. | Minn. | 44 | 57 | CST | +19 | +26 | +29 | +32 | +39 |
| Ortonville. | Minn. | 45 | 20 | CST | +30 | +38 | +41 | +45 | +53 |
| Jefferson City | Mo. | 38 | 32 | CST | -37 | +29 | +25 | +20 | +12 |
| Jopinin.. | Mo. | 37 | 04 | CST | +51 | +39 | +34 | +28 | +17 |
| Kansas Cit | Mo. | 39 | 05 | CST | $+45$ | +38 | +34 | +30 | +23 |
| Popiar Blu | Mo. | 36 | 40 | CST | +35 | +23 | +17 | +11 | -1 |
| St. Josep | Mo. | 39 | 46 | CST | +44 | +38 | +35 | +32 | +26 |
| St. Louis | Mo. | 38 | 38 | CST | +29 | +21 | +17 | +12 | + 4 |
| Springfiel | Mo. | 37 | 13 | CST | +46 | +34 | +29 | +23 | +12 |
| Chadron. | Neb. | 42 | 50 | CST | $+66$ | $+67$ | +68 | +68 | +70 |
| Grand Isi | Neb. | 40 | 52 | CST | +54 | +51 | +49 | +48 | +44 |
| Lincoin. | Neb. | 40 | 49 | CST | +48 | -44 | +43 | +41 | +37 |
| Norfolk | Neb. | 42 | 01 | CST | +47 | +46 | +45 | +45 | +44 |
| North P | Neb. | 41 | 10 | CST | +63 | +60 | +59 |  | $+55$ |
| Omaha | Neb. | 41 | 16 | CST | +43 | +41 | +40 | +38 | +36 |
| Sidney | Neb. | 41 | 08 | CST |  |  |  | +66 | +63 |
| Bismar | N. D. | 46 | 48 | CST | +42 | +53 | +59 | +64 | +77 |
| Fargo. | N. D. | 46 | 52 | CST | +25 | +37 | +43 | +49 | +61 |
| Grand F | N. D . | 47 | 56 | CST | +22 | +37 | +44 | $+51$ |  |
| Minot | N. ${ }^{\text {D }}$ | 48 | 15 | CST | $+37$ | +54 | $+61$ | +68 | +85 |
| Wilist | N. ${ }_{\text {Nhlo }}$ | 48 | 10 | CST | +47 +46 +47 | +63 +43 | +70 +42 | +78 +40 | +94 +37 |
| Canton | Ohio | 40 | 48 | EST | +47 | +43 +43 | +42 +41 | +40 +39 | +37 +36 |
| Cincinnati-Hamilton. | Ohio | 39 | 06 | EST | +64 | +57 | +54 | +50 +50 | +43 |
| Cieveland-Lakewood. . | Ohio | 41 | 30 | EST | +46 | +43 | +42 | +42 | +40 |
| Columbus. | Ohio | 39 | 58 | EST | +56 | +50 | +48 | +45 | +40 |
| Dayton-Springfeld | Ohio | 39 | 46 | EST | +58 | -55 | +52 | +49 | +43 |
| Lima. | Ohio | 40 | 45 | EST | +58 | +54 | +52 | +50 | +47 |
| Toiedo | Ohio | 41 | 39 | EST | +52 | +51 | +50 | +49 | +47 |
| Youngsto | Ohio | 41 | 06 | EST | +43 | +40 | +38 | +37 | +34 |
| Aberdeen. | S. D. | 45 | 30 | CST | +38 | +46 | +50 | +54 | +62 |

## MIDWESTERN STATES (Continued)

| City | State | Latitude, | Time Used | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} A-D \\ m \end{gathered}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathrm{H}}$ | $\underset{\mathrm{m}}{\mathrm{I}}$ | $\underset{\mathbf{m}}{\mathbf{J}-\mathbf{M}}$ | $\begin{gathered} \mathrm{N}-\mathrm{Q} \\ \mathrm{~m} \end{gathered}$ |
| Murdo | S. D. | $43 \quad 53$ | CST | +53 | +57 | $+59$ | $+60$ | $+65$ |
| Pierre. | S. D. | $44 \quad 21$ | CST | $+50$ | +55 | +57 | $+59$ | $+65$ |
| Rapld City | S. D. | $44 \quad 05$ | CST | +62 | $+67$ | +69 | +71 | +75 |
| Sioux Falls | S. D. | $43 \quad 33$ | CST | +38 | +41 | +43 | +44 | +47 |
| Eau Claire | Wls. | $44 \quad 51$ | CST | +13 | +19 | +22 | $+25$ | +31 |
| Green Bay | Wis. | 4430 | CST | 0 | + 5 +19 | +8 | +10 | +16 |
| LaCrosse. | Wis. | 4340 | CST | -15 | -19 | +21 | +22 | +26 |
| Madison | Wls. | 4304 | CST | +11 | +12 | +13 | +14 | +16 |
| Mllwauke | Wis. | 4302 | CST | $+5$ | + | + 7 | +8 | +10 |
| Oshkosh. | Wis. | $44 \quad 01$ | CST | + 2 | +6 | +8 | +10 | +15 |
| Wausau | Wis. | 4456 | CST | $+5$ | +12 | +15 | +18 | +25 |
| Montrea | Que. | 4530 | EST | - 4 | + +5 | +10 | +15 | +23 |
| Quebec | Que. | 4645 | EST | $-19$ | -6 | +1 | +8 | +20 |
| Toronto | Ont. | $43 \quad 45$ | EST | +29 | +31 | +33 | +36 | +38 |

## MIDWEST WEATHER FORECAST

Verification Base: Chicago. However, this is meant to serve for Minnesota, Wisconsin, and Michigan (remembering these states are slightly colder) and Indiana, Iowa (slightly warmer).

THE YEAR (JAN.-DEC. 1968)
Temperature for this year will be a normal $49.8^{\circ}$, but precipitation will be $35.48^{\prime \prime}$, just slightly below normal ( $36.0^{\prime \prime}$ ). Look for a heavy storm of snow between January 24 and 31, and again the last week of February. The last week of Aprll may be violent as well as the first week in May. Two severe thunderstorms are expected between June 11 and 13 and 23 through 27. July 6 through 10 seems to hold a dangerous storm. November 21 to 30 will be miserable for travel, as well as December 7 to 11, and 24 to 31 .

## THE WINTER (NOV. 1967-APKIL 1968)

Here will be close to normal temperature ( $33.9^{\circ}$ against $34.2^{\circ}$ normal), much higher precipitation (14.02' against $12.72^{\prime \prime}$ normal), and $38^{\prime \prime}$ of snow (compared with the normal of $33^{\prime \prime}$ ). It will be wintry all right - but nothing llke the Blizzard of 1967 or tornadoes as far north as Chicago.

Nov. 1967: Avg. temp. 39.4 ${ }^{\circ}$. Rain $1.98^{\prime \prime}$. Snow $2^{\prime \prime}$. Storm first week --very lieavy.
Dec. 1967: Avg. temp. 29.3 ${ }^{\circ}$. Prec. 1.84". Snow $10^{\prime \prime}$. Bad storm with snow (7-13).
Jan., 1968: Avg. temp. $21^{\circ} \quad\left(3.7^{\circ}\right.$ below normal). Prec. $2.0^{\prime \prime}$. Snow $8^{\prime \prime}$. Rain and snow ( $5-10$ ), heavy storm with snow (24-31). There will not be a repetition of last year's blizzard.
Feb.: Avg. temp. 28.2 ${ }^{\circ}$, Prec. 1.73". Snow 10". Chicago's worst storm of the year-but not anywhere near as bad as the worst storm last year - will come in during the last week (22-29).
Mar.: Avg. temp. $36.2^{\circ}$. Prec. $2.69^{\prime \prime}$. Snow $8^{\prime \prime}$. The Midwest will get most of its snow in the storm 5-11. However, considerable violence is indicated between the 18th and 23 rd and a cold wet storm 27-31.
Apr.: Avg. temp. $49.5^{\circ}$ (1.9 ${ }^{\circ}$ above normal). Rain $3.66^{\prime \prime}$. Nothing volent this montl except per-
haps during the last week (2530). The bad storms elsewhere (12-18) would seem to be light here-wlth perhaps heavy rain between 5th and 8th.
May: Avg. temp. $57.2^{\circ}$ (normal $58.2^{\circ}$ ). Rain $3.80^{\prime \prime}$ (normal 3.48"). This is a tornado month in the area, which means the first week could bring as much as half the raln of the entire month - and ls the one to watch. Rains again (11-13 and 16-17), but the last two stornis, (21-24) and durlng the last week, are not to be worried about.
June: Avg. temp. $70.2^{\circ}$ (normal $68.1^{\circ}$ ). Raln $4.25^{\prime \prime}$ (normal $3.59^{\prime \prime}$ ). This area will have at least two severe thunderstorms or tornadoes - one between 11-13 and another 23-27.
July: Avg. temp. norinal $73.7^{\circ}$. Rain normal $3.43^{\prime \prime}$. Extreme heat will be broken by showers (1-3), (14-16) and (22-26). However, a storm coming betwecn the 6 th and 10 th may be dangerous, windy, and leally wet.

## THE

## GREAT

- WHILE THE CITIZENS of Boston, New York (even Buffalo), Atlanta, Miami, New Orleans, Phoenix, and Los Angeles were getting up to a fair and warmish day the morning of January 26, 1967-those of Galveston, Kansas City, St. Louis, Cincinnati, Detroit, and Chicago were not. A glance at the shaded area of the weather map for that day shows how it was. What does not show is that in the Chicago, Detroit, and South Bend areas those who came to work in what they thought was "just another snowstorm" were really walking into the heaviest blizzard ever known to this center of the population of the United States. Drifts accumulated to 20 feet in some places. With no place to put all this snow along with that which followed in the next 10 days, the railroads had to carry it to the south where it would melt. Cars were stranded, businesses, schools, and factories closed for days. Radio stations carried messages night and day from separated friends and families. The official figure of snow depth on the ground by Groundhog Day (Feb. 2) was 30 inches. By the 6th, six more inches had been added to the total. Winds, during the record fall of the 26 th and 27 th, were as high as 60 miles per hour. It was the worst storm in recorded history in Chicago. After threatening the East, but never really getting there, it moved up into Canada and disappeared. The rest of the states in which this storn was rain, instead of snow, are still thanking their lucky stars . . . and the offsetting "warm trough from Galveston to the northeast." This ALMANAC predicted it for the areas where it hit.


## Continued from page 97

Aug.: Arg. temp. $69.3^{\circ}$ (normal $72.4^{\circ}$ ). Kain $3.5^{\prime \prime}$ (normal 3.16"). Most of this rain will fall between 6-11 and 21-27, but neither storm is cause for alarm, nor is the one 12-16.
Sept.: Avg. temp. $66.6^{\circ}$ (normal (67. $6^{\circ}$ ). Rain normal $3.10^{\prime \prime}$. Really nothing bad in the rains (2-5), (13-15) and (27-30). A storin between the 19 th and 25 th, however, will bear watching.
Oct.: Avg. temp. $55.5^{\circ}$ (normal $5.5^{\circ}$ ). Rain $2.8^{\prime \prime}$ (normal 2.56"). Four rainy spells - the last two being heavier than the others. (4-7), (12-15), (17-19), and (28-30).

Nov.: Arg. temp. normal $40.4^{\circ}$. Prec. $2.15^{\prime \prime}$ (normal 2.30"). Snow 2. $\boldsymbol{\tau}^{\prime \prime}$. All of this snow will be during a miserable storm of rain, sleet, and snow between the 21st and 30 th . The other two storms (3-5) and ( $10-13$ ), are not too bad but that of $10-$ 13 is twice as heary as the $3-5$ one.
Dec.: Avg. temp. $30.3^{\circ}$ (normal $29.3^{\circ}$ ). Prec. $1.70^{\prime \prime}$ (normal $\left.1.98^{\prime \prime}\right)$. Snow $8^{\prime \prime}$. Expect rain, sleet, and snow between the ith and 11th-and again (to interfere with Christmas trarel) between the 24 th aud 31 st. The other two storms ( $14-16$ and 19-21) are mostly rain.


## TIDES OF THE GREAT LAKES

This year on November 21 someone no doubt will celebrate the 75th Anniversary of the Great Lakes' being declared a part of the world's High Seas. We suppose such a declaration was brought about for legal reasons. With the shipping traffic there international, the Lakes could hardly remain the inland waters of the United States and Canada. However, the rules which govern navigation of the Great Lakes are not those of the High Seas. They, are the "Great Lakes Rules" and apply only to the Great Lakes and on the St. Lawrence River East to Montreal.

A lot of people live around the shores of these lakes. Most of them don't care what, from a legal standpoint, they are. On the other hand, almost all are interested in the water level of the one near which they live, and a considerable number of those who fish or boat - commercially or for pleasure - find these water level statistics vital.

To one who lives along the ocean shores of America, it perhaps never occurs to him that tides exist anywhere except in the ocean. To these people it hardly seems likely that many clam diggers are studying Great Lakes tide tables for the low tides which East or West or Gulf Coast diggers so anxiously await.

Nor, as a matter of fact, despite the rise and fall of these lakes with the influence of the moon and sun, does anyone else care. At best, it amounts only to
a rise of two to three inches when the moon is crossing the meridian of any given Great Lakes place. Six hours and twelve minutes later this same place will notice a fall of a similar amount. Twelve hours and twenty-five minutes after the meridian crossing, the same rise will occur again. And a similar fall happens six hours and twelve minutes after that. For the meticulous, a ruler placed on the beach and noticed at the time of these meridian crossings will tell the exact local story. Or would, were it not for the fact that on most days and nights other factors are influencing the Great Lakes water levels far more than do the tides.
But, before you cross off your interest in this tide phenomena, you may wish to remember that on a deep inland lake the "tide forces" bring high tide to the Eastern end of the lake about three hours before actual "lake high tide" - and to the Western end about three hours after this maximum. In brief, ligh tide does not occur simultaneously on any of the Great Lakes. When it is high tide in one end, it will be low tide in the other. So saith, at least, the U. S. Coast and Geodetic Survey - and it, by reason of its concern with tides the world over, should know.
The Army Corps of Engincers at Detroit is now giving specific attention to these Great Lakes water levels. It reports that the full results of its present studies will not be apparent for at least


## Dear Friend:

Will you join in on the Old Time Song and Poem Revival group now being formed?
It's FUN! You'll be delighted - often amused - always captivated (perhaps even wipe away a tear or two!) at some of these wonderful old time songs and ballads!
You'll have a chance to see and read at least 300 to 500 of the old time tunes, ballads, poems, etc. annually as they are published in our newest magazine, "Old Time Songs and Poems."
Each issue features not orily poems and ballads but many old time songs complete with words and music! Often many rare and hard-to-find songs, too! As a subscriber you'll have a chance to help locate any old song or poem that you want. You'll learn about 'other readers' experiences and collections of old songs and poems. You'll be surprised at how our readers are eager and willing to help!
Many, many of these delightful old time songs and poems have not seen the light of day for years and years! You'll wonder how they could have been ignored and overlooked so long! You'll save and treasure each new issue!
Every other month a big, brand new issue - just loaded and chock full of delightful thines. Scores of wonderful illustrations, too. This is the only one of its kind published - you won't find it for sale anywhere. Subscribe now and be sure of receiving every big issue as it is published!
Just $\$ 2.00$ buys a full year's subscription. And if you act NOW - you'll become a charter subscriber and receive the very first issue as it comes off the press! And please remember - your money back in full if the first issue that you receive doesn't please you in every way.
Won't you please join this new Old Time Songs and Poems group? We'll be watching for your subscription!


## 101

## NOW... for just 256 <br> You can get your first copy of this unusual, exciting new magazine <br> GOOD.OLDDPAYS <br> 

## Every page of this unique book is crammed full with old time songs, poems, cartoons, photos, fashions, drawings and jokes.

## there is no other publication like it.

It will make you laugh, chuckle and shed a tear as it brings back the "good old days".

Take advantage of this offer to ramble down memory lane back to the nostalgic days when life was simpler and happier. You'll find this book a delight whether. you lived the "good old days" or just heard about them. This is a book you will cherish as an "heirloom of the future". The entire contents is AUTHENTIC material culled from hundreds of sources. Besides being "fun" reading for the entire family, it is a treasure trove for writers and researchers of the day to day living of years gone by. . . . America at its best. You will love every page. We know-because people tell us. Even the most cynical and sophisticated readers are captivated by its wide range of topics.

Here is what one reader says: "This magazine is so unique we intend to keep all future copies for our great-grandchildren. What you are printing is history and wealthy is the child who absorbs it." R.G.M., Nova Scotia, Canada.

And another: "I enjoy everything in the magazine, I save every issue. Best idea in magazines I've seen, this revival and preservation of the past in print. Real Americana." D.E., Cromwell, Conn.
"Your magazines brought back pleasant memories for the entire family." Mrs. L.T., Weymouth, Mass.

Let the GOOD OLD DAYS carry you back to the era of the Flappers, Penny candy, Raccoon coats, penny postcards, and $2 \Phi$ newspapers. Revel at the wonderful good old days illustrations, long forgotten songs and poems, personal recollections, recipes, stories, old movie stills and features which create warm and nostalgic memories.

Yes, you'll get hours and hours of old-fashioned pleasure and enjoyment from GOOD OLD DAYS.

Mail the coupon today and join thousands of your fellow Americans on the voyage back to the years of a more tranquil world. And-if you don't think this is just about the most heartwarming reading experience of your life, you can have your money back in full. No quibbling.


## 6.-7. WESTERN AND MOUNTAIN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for both the Northern and Southern States of the Far West. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. E"ample: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Key Letter N for San Francisco (last col. below) shows +9 . So sunrise at San Francisco will be 7:21 A.M., PST. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

## NORTHERN TIER

The adjusted times found for these cities will be accurate generally to within 5 min .

| City | State | $\begin{aligned} & \text { Lati- } \\ & \text { tude, } \end{aligned}$ |  | Time | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\mathrm{A}-\mathrm{D}$ | $\underset{\mathrm{E}-\mathrm{H}}{\mathrm{E}}$ | $\begin{aligned} & \mathrm{I} \\ & \mathrm{~m} \end{aligned}$ | $J-\mathrm{M}$ | $\mathrm{N}-\mathrm{Q}$ |
| Fresno. | Cal. | 36 | ${ }_{4}^{44}$ |  | $\underset{\text { PST }}{ }$ | + | +21 | $\pm 15$ | ${ }^{9}$ |  |
| Redding. | ${ }_{\text {Cal }}^{\text {Cal }}$ | $\stackrel{40}{38}$ | 30 <br> 35 | $\begin{aligned} & \mathrm{PST} \\ & \text { PST } \end{aligned}$ | +31 +34 | +27 +26 | +25 +22 | +23 +18 | +19 +9 |
| San Francisco incl. ${ }_{\text {Oakland }}^{\text {\& San Jose }}$ |  |  |  |  |  |  |  |  |  |
| Stockton............ | Cal. | 37 | 57 | ${ }_{\text {PST }}$ | +40 +35 | +29 +26 + | +25 | +20 +16 | +9 +6 |
| Craig | Colo. | 40 | 30 | MST | +32 |  | +26 | +24 | +19 |
| Denver-Bould | Colo. |  | ${ }^{45}$ | MST | +25 | +19 +3 +3 | +16 | +13 |  |
| Pueblo | Colo. |  | 16 | MST | +28 |  | ${ }_{+14}^{+10}$ | +10 |  |
| Trinida | Colo. | 37 | 08 | MST | +31 | 9 | -14 |  |  |
| Boise. | Idaho |  |  | MST | ${ }^{+56}$ | ${ }^{+59}$ | +61 | +62 | 65 |
| Pocatello | Idaho | 42 | 55 | MST | +44 | +45 | - 45 | +46 |  |
| Blllings. | Mont. | 45 | 47 | MST | -16 |  | +29 |  |  |
| Butte. | Mont. | 46 | 01 | MST | +32 | ${ }^{+41}$ | $+46$ | +50 | +60 |
| Glasgow | Mont. | 48 | 10 | MST | +21 | ${ }_{-15}^{-15}$ | + + | +30 +47 |  |
| Helena. | Mont. | 46 | ${ }_{36}$ | MST | $+27$ | +15 +39 | +44 | +49 | ${ }^{-61}$ |
| Miles Ci | Mont. | 46 | 30 | MST | + | +14 | +19 | +24 |  |
| Carson C | Nev. | 39 40 | 31 50 | PST | +25 | +18 | $\pm 15$ | $\pm 11$ |  |
| Las Vega | Nev. |  | 10 | PST | +16 | + | - 4 | - 10 | 24 |
| Eugene. | Ore. |  | ${ }^{03}$ | PST | +22 | +26 | +28 | +30 | +34 |
| Pendieto | Ore. |  | ${ }_{31}^{35}$ | PST | - $1^{2}$ | +23 | +11 +26 | +15 +30 | - |
| Kanab. | Utah |  | 03 | MST | +63 | +52 | +46 | +40 | +2 |
| Moah. | Utah |  | 35 | MST | +47 |  | +34 | +30 | 21 |
| Ogden | Utah | 41 | 14 <br> 45 | MST | +48 | +45 | +44 | +42 | +40 |
| Vernal. | Utah |  |  | MST | +40 | - +36 | + +34 | ${ }_{+}^{+41}$ |  |
| Bellingham | wash. | 48 | 54 | PST | + | +19 | +26 | +32 | +48 |
| Seattie-Tacom | Wash. |  |  |  |  |  |  |  |  |
| Spokane. | Wash. | 47 | 40 | PST | -16 | -1 | +5 | +12 | +27 |
| Casper.. | Wyo. | 46 42 | 04 <br> 50 | ${ }_{\text {PST }}$ | - ${ }^{5}$ | + 5 | + ${ }^{\mathbf{9}}$ | ${ }_{+14}^{+14}$ | +24 |
| Cheye | Wyo. | 41 | 08 | MST | $+17$ | +14 | +13 | +11 | +24 |
| Rawlin | Wyo. | 41 | 45 35 | MST | +27 | +25 | +25 | +24 | 23 |
| Sherldan............ | Wyo. | 44 | 50 | MST | +14 | +20 | $+23$ | +26 | 3 |

## SOUTHERN TIER

The adjusted times found for these cities will be accurate generally to within 10 mins.

| Flagstaff | Arlz. | 35 | 08 | MST | +62 | $+50$ | +42 | +35 | $+22$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phoenix. | Arlz. | 33 | 27 | MST | +69 | +53 | +44 | +35 | +19 |
| Tucson. | Arlz. | 32 | 13 | MST | +68 | +50 | +40 | +29 | -11 |
| Yuma..... | Ariz. | 32 | 40 | MST | +81 | +64 | +54 | +44 | +27 |
| Fort Smith | ${ }_{\text {Ark. }}^{\text {Cal. }}$ | 35 35 | 25 | CST | +54 +32 +3 | +41 +19 | +33 | +26 $+\quad 4$ | +13 |
| Barstow ... | Cal. | 34 | 55 | PST | +32 +25 | +19 +12 | +12 +4 | $\begin{array}{r}\text { a } \\ +4 \\ \hline\end{array}$ | - 8 |
| Los Angelcslnel. Pasadena \& Santa Monica | Cal. | 34 | 03 | PST | +32 | +17 |  |  |  |
| San Dicgo........... | Cal. | 32 | 43 | PST | +31 | +14 | $\begin{array}{r}+9 \\ +\quad 4 \\ \hline\end{array}$ | - 5 | -14 -23 |
| Albuquerque | N. M. | 35 | 05 | MST | +43 | +30 | +22 | $+15$ | +1 +1 |
| Gallup.... | N. M. | 35 | 30 20 | MST | +50 +51 | +38 | +31 | +24 |  |
| Las Cruces | N. M. | 32 | $\stackrel{20}{20}$ | MST | +51 +39 | +34 +23 | +23 +14 | +12 +5 | -5 |
| Santa Fe | N. M. | 35 | 41 | MST | +39 | +26 | +17 | +12 +12 | +11 |
| Ardmore. | Okla. | 34 | 05 | CST | +67 | +53 +53 | +19 +44 | +12 | +21 |
| Oklahoma City | Okla. | 35 | 28 | CST | +66 | +53 | $+46$ | +38 | +26 |
| Tusa.... | rekliz. | 78 | (0) | C8T | -63 | +46 | + | +38 | +21 |

## 6. THE GREAT PLAINS WEATHER FORECAST

## For weather forecast of the Pacific Northwest - turn the page.

Verification Base: Denver, Colorado. However, this forecast is meant to indicate something about the weather for the Dakotas, Nebraska, Missouri, Kentucky, as well as Montana and Wyoming. As the "worst weather in the world" is at Medicine Hat, Fargo, and Bismarck (with parts of it seeping into Minnesota), for these points it should be much colder, wilder, and more severe - but the storm dates should be olcay.

THE YEAR (JAN.-DEC. 1968)
Temperatures near $49.8^{\circ}$ (as against $50.3^{\circ}$, which is normal) should prevail in this area and the precipitation should also be about normal, 14.16" (against 14.94", the normal). The February storm (between the 8th and 15th) may be the winter storm of the year, while August 21 to 27 secms to carry with it the heaviest rainfall.

## THE WINTER (NOV. 1967-APRIL 1968)

Colder than normal ( $35.6^{\circ}$ against the normal of $36.9^{\circ}$ ), slighty more precipitation than normal ( $5.78^{\prime \prime}$ versus normal $5.38^{\prime \prime}$ ), and just slightly less snow ( $51^{\prime \prime}$ against normal of $56^{\prime \prime}$ ).

Nov. 1967: Avg. temp. $38.9^{\circ}$. Prec. .63". Snow 6". Storm with snow first week.

Dec. 1967: Avg. temp. $32.4^{\circ}$. Prec. $.57^{\prime \prime}$. Snow $10^{\prime \prime}$. Snowstorms first two weeks.
Jan. 1968: Arg. temp. $25.5^{\circ}$. $\left(4.6^{\circ}\right.$ below normal). Prec. .49", Snow $10^{\prime \prime}$. The snowstorms will be in the last half of the month (1820 and 24-31).

Feb.: Avg. temp. $33.9^{\circ}$. Prec. . $56^{\prime \prime}$. Siow 11". The second week (815) is the one to watch for, perhaps, The Storm of 1968.
Mar.: Avg. temp. 38.6 ${ }^{\circ}$ Prec. 1.15". Snow $14^{\prime \prime}$. The latter part of the period $5-11$ will be
stormy with snow, while that stormy with snow, while that include a lot of snow, hail, and rain.
Apr.: Avg. temp. $49.4^{\circ}\left(1.9^{\circ}\right.$ above normal), Rain $2.41^{\prime \prime}$. There could be a repetition this year of last April's stormy period which came in between the 10 th and 16 th . This year it will fall between the 5th and 8 th.

May: Avg. temp. $55.8^{\circ}$ (normal $56.8^{\circ}$ ). Rain $2.61^{\prime \prime}$ (normal 2.39"). Curiously enough, May is a rainy month in the Great Plains - and fortunately so for most growers. However, most of the rain will be found in the first week, and between the 11 th and 17th. Showers 21-22, and the month ends (25-31) in at least one good downpour.
June: Avg. temp. 68.7 (normal $66.3^{\circ}$ ). Rain $1.71^{\prime \prime}$ (normal $1.45^{\prime \prime}$ ). This is the tornado, thunderstorm, and duststorm month in
this area. The 11-13 and 23-25 may bring one or all.

July: Avg. temp, normal $72.7^{\circ}$. Rain normal 1.67". There are a few good thunderstorms and a tornado or two still hanging from the Canadian border which may cone in $(6-10)$. The other storms are moderate, (13), ( $1 \mathrm{t}-16$ ) and (22-26).

Aug.: Avg. temp, 68.3 (normal $71.4^{\circ}$ ). Rain $1.55^{\prime \prime}$ (normal 1.39"). Two spells of rain or showers ( $6-11$ and $14-16$ ), then the heaviest rain of the summer (21-27).

Sept.: Avg. temp. $63.8^{\circ}$ (normal $62.8^{\circ}$ ). Rain normal $1.08^{\prime \prime}$. Only one major storm-that between the 19 th and 25 th - rain and wind.

Oct.: Avg. temp. $52.7^{\circ}$ (normal $51.7^{\circ}$ ), Rain 1.1" (normal .99"). Whatever rains do come into this area this month will be more welcome than worrisome. Expected (4-7), (12-15), (17-19) and (28-30).

Nov.: Arg. temp. normal $39.8^{\circ}$. Prec. $6^{\prime \prime}$ (normal $63^{\prime \prime}$ ). Snow $8^{\prime \prime}$. Only one major storm this month. This comes in, with snow, between the 21 st and 30th.
Dec.: Avg, temp. $33.4^{\circ}$ (normal $32.4^{\circ}$ ). Prec. $53^{\prime \prime}$ (normal . $61^{\prime \prime}$ ). Snow $6^{\prime \prime}$. The storm between the 7 th and 11th will be snow, and that between the 24 th and 31 st should make a White Christmas in this area. The other two storms (14-16 and 19-21) are warmer with the first one more threatening than the other.

## 7. PACIFIC NORTHWEST WEATHER FORECAST

Verification Base: Portland, Oregon. However, this forecast should be useful if you reduce the amounts of rain as you go south all down the coast to San Francisco. No attempt is made herewith for Southern California or the desert states as the variations, except around coastal Southern California, are too small to be meaningful. Nor have we summarized the winter as snow (normally 7.9") for the six winter months is not a problem. Hovever, we have included November and December 1967 - just in case.

## THE YEAR (JAN.-DEC. 1968)

The average temperature will be $51.9^{\circ}$ which is two-tenths of one degree below normal ( $32.1^{\circ}$ ), or not enongh to mention. Preeipitation will also be normal - $38.43^{\prime \prime}$. Highlights to watch this rear are the storms between Mareh 18 and 23, the first week of May, between May 11 and 17, and between November 21 and 30.

Nov. 1967: Arg. temp. $46.0^{\circ}$. Raiu $5.24^{\prime \prime}$. Heavy rains last two weeks.
Dec. 1967 : Avg. temp. $41.0^{\circ}$. Rain $5.3 \bar{y}^{\prime \prime}$. Very rainy $7-14$, and not clear 23-31.

Jan. 1968: Avg. temp. $32.4^{\circ}$ (5.9.9 below normal). Pree. 5.85" Snow 5". Heavy rains 5-10, and again with some snow $24-31$.
Feb.: Arg. temp. $37^{\circ}$. Pree. 3.83". Snow 4.7". The last week (22-29) is where most of the rain will come in, whereas the second week ( $8-15$ ) will bear the snow.
Mar.: Arg. temp. 4ॅ. $7^{\circ}$. Prec. 3.79". The only real trouble period here seems to be between the 18 th and 23 rd and this will be a "deluge."
Apr.: Arg. temp. $53.1^{\circ}\left(2^{\circ}\right.$ abore normal). Rain 2. $2^{\prime \prime}$. Very wet (12-18 and 25-30)-not anything dangerous.
May: Arg. temp. $55.7^{\circ}$ (normal 56. $7^{\circ}$ ), Rain $2.31^{\prime \prime}$ (normal 2.12 $2^{\prime \prime}$ ). There is a good ehance of at least one tornado or heary shower in the first week - and between the 11 th and 17 th. Drizzles $21-22$ and a moderate storm 25-31.

June: Avg. temp, $64.3^{\circ}$ (normal (6..40). Rain 1.85 (normal 1.59 $9^{\prime \prime}$ ). Can't see anything bad this month exeept possibly between the $23 r d$ and 27 th.

July: Arg. temp, normal 64.7 ${ }^{\circ}$. Rain normal .je". Nothing moch doing. weatherwise, this month in this area. Of the four periods in which there may be showers. (1-3), (6-11), ( $14-16$ ), and (22-26). only the second one ( $6-11$ ) looks as if it might mean umbrellas and raineoats.

Aug.: Arg. temp, $61.4^{\circ}$ (normal 64.2 ${ }^{\circ}$ ). Rain $.8^{\prime \prime \prime}$ (normal .75"). Nothing to amount to anything this month exeept between the 21 st and 27 th - and that not serious.
Sept.: Avg. temp. 63.5 (normal $62.5^{\circ}$ ). Rain normal $1.54^{\prime \prime}$. Only storm to be afraid of might be one between the 19th and 25 th.
Oct.: Avg. temp., $55.1^{\circ}$ (normal $54.1^{\circ}$ ). Rain 3.90" (normal 3.54"). Storms begin to come into the area this month. All of the four expected (4-i), (12-15), (17-19), and ( $2 \mathrm{~S}-30$ ). Will be heary, but that of $1 \overline{6}-19$ hearier than the others.
Nor: Avg. temp. normal $45.4^{\circ}$. Rain 5.40" (normal 5. $8^{\prime \prime}$ ). As the heary rains eontinue in this area, expeet a storm $3-5$, a downpour $10-13$, and between the 21 st and 30 th, the "deluge."
Dec.: Arg. temp, $4^{\circ}$ (normal $41^{\circ}$ ). Rain $4.95^{\prime \prime}$ (normal $5.76^{\prime \prime}$ ). Three periods of heary rain this month ( $7-11$ ). ( $14-18$ ), and ( 24 31). The storm between the 19th and 21 st , however, is relatively light.

## NODES OF THE MOON

The "moon runs high" and "moon rides low" symbols (see pages $25-47$ ) are useful as weather predietors. When it runs high, look out for a cool spell or frost - when riding low, there is often a mild spell; in summer, a heat wave.

Two vears ago, a prominent bookseller offered for sale an almanack which was said to have been used by George Washington at Mount Vernon. Its ealendar pages were eovered with "hieroglyphics" in our first President's handwriting. These "hieroclyphics" marked the nodes of the moon eaeh month. In Washington's time, the nodes of the moon were widely used as planting guides.


## SACAJAWEA, THE WOMAN WHO LED THE WAY TO THE GOLDEN EMPIRE OF WESTERN AMERICA

(Left, the statue erected to her by the women of Oregon at Portland. Alice Cooper, sculptress.)

The Lewis and Clark Expedition across the continent to the Pacific Coast, 1803 to 1806, was not the first of its kind but, following as it did hard upon the heels of the Louisiana Purchase, it was probably the most significant. Thomas Jefferson planned it to establish a land route to the West, to find out more about the native Indians along this routo. and to strengthen America's claims to the territory of Oregon. His private secretary, Captain Meriwether Lewis, was given command; Lewis selected William Clark as his associate. Congress appropriated the money. The men were trained in Illinois across the river from St. Lonis in the winter of 1803-04. In May, 1804, the company went up the Missouri and wintered (1804-05) near Bismarck, North Dakota. In the spring of 1805, advances were made to the Three Forks of the Missouri. The three rivers they named the Jefferson, the Madison, and the Gallatin. Their decision was to follow the Jefferson River-and this they did until they had to stop. And indeed. this might well have been their final destination had it not been for the only woman in their midst, the wife of their French interpreter, Touissant Charboneau, a Shoshone Indian nee Sacajawea.

As a Shoshone, this Indian girl was born and grew up along the Snake River in Idaho just west of the Bitter Root Mountains which we now call the Rockies. It was here that the Blackfeet Indians killcd many of the Shoshones and took the rest. including this girl. into captivity. They subsequently took her to Bismarck and sold her, as a slare (and sccond wife), to the aforcsaid Charboneau. On February 11, 1805, just before the expedition was to leave (April 7) Bismarck for Three Forks she gave birth to a son. Sacajawea strapped her little papoosc on her back and carricd Baptistc, as he was called, the entire distance of this hazardous 5,000 mile trip.
On May 14, 1805 , enroute to Three Forks, Sacajawea, child and all, plunged into the Jefferson to save the papers, instruments, medicine, and other indispensable articles from her husband's overturned canoe. For this daring act, Lewis and Clark named after her a new-found river, now known as Crooked Creek in Montana. At Three Forks the expedition camped at the exact spot where Sacajawea had been captured by the Blackfeet.
From this point on, remarkable as it may seem since she lad bcen taken from there at age five, Sacajawea came to recognize familiar landmarks-and the path to the West over which she had travelled with her mother as a papoose becane clear. She found for Clarl the pass in the mountains through which her tribe had gone-and in fact on the other side of it were what was left of the Shoshonc tribe. Among these were a girl who liad bcen captured (but escaped) at the same time as Sacajawea had bcen, and also the new chief of the Shoshones, her long-lost brother.

A recital of all the services this remarkable woman performed for Lewis and Clark is found in their journals. Among them it is told how she found it necessary to disclose to her white friends the treacherr of her own brother. Had she not done this, the expedition undoubtedly would have lost all its horses-and perished in the
mountains. Also her knowledge of medicinal herbs and their curative properties was "of extreme worth in time of sickness." She averted starvatiou more than once by concocting meals from native seeds and plants-as well as by searching out the artichokes stored away in prairie dog holes by those little animals for winter sustenance.

Lewis and Clark reached Clatsop on the Pacific Coast on December $7,1805-4,135$ miles from St. Louis. They were back again in Bismarck in August 1806. Charboneau was then paid off with the sum of $\$ 500$. No more was heard of Sacajawea until the St. Louis Fair in 1904 and the Lewis and Clark Exposition at Portland, Oregon in 1905. In these years, Eva Emery Dye's book "The Conquest" extolled her. Bruno Louis Zimm, a New York sculptor, in his preparations for a statue of Sacajawea, turned up her gravestone"a slight slab" in a 40 -acre tract of the Shoshone Reservation in Wyoming. Local records noted her passing at age 100, April 9, 1884. She received a Christian burial and many of hel descendants from an adopted son, as well as her own "Baptiste," are living today in those parts.

In addition to the Zimm's statue which stood between the Liberal Arts and Manufacturers buildings at the St. Louis Fair, the women of Oregon commissioned Alice Cooper to do another of her to stand in Portland. In 1907 the Legislature of North Dakota appropriated $\$ 15,000$ for a foundation and pedestal in honor of Sacajawea at Bismarck, by Leonard Crunelle. A project was also initiated by the State of Wyoming in her memory at Three Forks. And, too, she is remembered in Paxson's idealistic portrayal in oils of her as "tall, rawboned and angular."

To Sacajawea must be given the credit for the "greatest real estate transaction in history"-one which pushed the boundaries of our country from the Mississippi River to the Pacific-which gave us beyond all reasonable doubt the breadth of our hemisphere from the Atlantic to the Pacific.

## 



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## 8. SOUTHERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in the Southern States. Note the Key Letters for any given day (pages $24-46,48)$. Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. Example: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Key Letter N for Atlanta is +29 . So sunrise at Atlanta will be 7:41 A.M., EST. Accuracy will be within 15 min . for Lat. $25-30^{\circ}, 10 \mathrm{~min}$. for Lat. $30-35^{\circ}$, and 5 min . for Lat. north of $35^{\circ}$. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

| City | State | Latitude, |  | Time Used | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{\mathrm{m}}{\mathrm{~A}-\mathrm{E}}$ | $\underset{\mathrm{m}}{\mathrm{~F}-\mathrm{H}}$ | $\mathbf{I}$ | $\mathrm{J}-\mathrm{L}$ | $\underset{\mathrm{M}}{\mathrm{M}-\mathrm{Q}}$ |
| Birmingham. | Ala. | 33 | 31 |  | CST | +28 | +12 | $+3$ | $-6$ | -22 |
| Decatur. | Ala. | 34 | 30 | CST | $+26$ | +12 | $+4$ | - 4 | $-19$ |
| Mobile. | Ala. | 30 | 42 | CST | $+39$ | $+19$ | +8 | - 4 | -24 |
| Montgomery | Ala. | 32 | 22 | CST | +29 | +11 | + 1 | - 9 | -26 |
| Little Rock | Ark. | 34 | 45 | CST | +47 | +33 | +25 | $+17$ | +3 |
| Texarkana | Ark. | 33 | 30 | CST | $+57$ | +41 | +32 | +13 +23 | +3 +7 |
| Jacksonvill | Fla. | 30 | 20 | EST | +75 | +54 | +42 +42 | +30 | -10 |
| Miaml. | Fla. | 25 | 47 | EST | +79 | +52 | $+37$ | +21 | -6 |
| Pensacola | Fla. | 30 | 25 | EST | +97 | +77 | +65 | +53 | +33 |
| St. Petersburg | Fla. | 27 | 46 | EST | $+84$ | +60 | +46 | +32 | + 8 + |
| Tallahassee. | Fla. | 30 | 30 | EST | +85 | +65 | +53 | $+41$ | +21 |
| Tampa.. | Fla. | 27 | 57 | EST | +83 | +59 | +46 | $+32$ | +81 |
| W. Palm Beach | Fla. | 26 | 46 | EST | +76 | +50 | +36 | +21 | + 5 |
| Atlanta. | Ga, | 33 | 45 | EST | +78 | +62 | +53 | +44 | +29 |
| Augusta | Ga. | 33 | 28 | EST | +69 | +52 | +44 | +35 | +17 |
| Columbus | Ga. | 32 | 28 | EST | +83 | +67 | +56 | +44 | +28 |
| Macon. | Ga. | 32 | 50 | EST | $+77$ | +62 | +50 | +39 | +24 |
| Savannah | Ga. | 32 | 05 | EST | +68 | +50 | +40 | +30 | +12 |
| Covington | Ky. | 39 | 07 | EST | +64 | $+57$ | +54 | +50 | +44 |
| Lexlngton-Fran | K Y . | 38 | 03 | EST | $+67$ | $+59$ | $+54$ | +50 | +41 |
| Louisville. | Ky. | 38 | 15 | EST | $+17$ | +63 | +59 | $+54$ | +46 |
| Alexandria | La. | 31 | 16 | CST | $+56$ | +36 | +26 | +14 | + |
| Baton Rouge | La. | 30 | 27 | CST | +53 | +32 | +20 | + +9 | -12 |
| Lake Charles | La. | 30 | 15 | CST | +61 | +40 | +28 | +17 | - 4 |
| Menroe. | La. | 32 | 30 | CST | $+51$ | +34 | +24 | +14 | - 3 |
| New Orleans | La. | 29 | 57 | CST | $+49$ | +28 | $+16$ | + 4 | $-17$ |
| Shreveport | La. | 32 | 31 | CST | +58 | + +41 | $+31$ | +21 | + +3 |
| Biloxi. . | Miss. | 30 | 15 | CST | +44 | +23 | +12 | + 0 | +20 |
| Jackson. | Miss. | 32 | 18 | CST | +44 | $+26$ | +16 | +6 | -11 |
| Meridian | Miss. | 32 | 28 | CST | $+38$ | +20 | +11 | + 0 | -17 |
| Tupelo | Mlss. | 34 | 18 | CST | +34 | +19 | +10 | -2 | $-13$ |
| Asheville. | N. C. | 35 | 36 | EST | +66 | +53 | +46 | $+39$ | +26 |
| Charlotte | N. C. | 35 | 13 | EST | +60 | +46 | +39 +39 | +32 | +18 +18 |
| Durnam. | N. C. | 36 | 00 | EST | +50 | +38 | +31 | +25 | +18 +13 |
| Greensboro | N. C. | 36 | 04 | EST | +53 | +41 | $+35$ | +28 | +16 |
| Ralelgh. | N. C. | 35 | 47 | EST | +50 | +37 | +30 | +23 | +11 |
| Wilmington | N. C. | 34 | 12 | EST | +51 | $+36$ | +27 | +19 | + +4 |
| Charleston. | S. C. | 32 | 47 | EST | $+62$ | +45 | +35 | + +26 | + $+\quad 9$ +18 |
| Columbia. | S. C. | 34 | 00 | EST | +64 | +48 | +40 | +31 | +16 |
| Spartanburg | S. C. | 34 | 57 | EST | $+65$ | +51 | +43 | +36 | +22 |
| Chattanooga | Tenn. | 35 | 03 | EST | +78 | $+65$ | +57 | +49 | +36 |
| Knoxvlle. | Tenn. | 35 | 58 | EST | +70 | +58 | $+51$ | +45 | +36 +33 |
| Memphls | Tenn. | 35 | 09 | CST | +37 | +23 +2 | +16 | +45 +8 | +36 +35 |
| Nashville | Tenn. | 36 | 10 | CST | +21 | + 9 +9 | +16 +3 | + 4 | -15 -15 |
| Amarillo | Tex. | 35 | 12 | CST | +84 | +70 | +63 | $+56$ | +42 |
| Austin. | Tex. | 30 | 16 | CST | +79 | +58 | +47 | +35 | +14 +14 |
| Beaumont... | Tex. | 30 | 05 | CST | +65 | +44 | +32 | +20 | +1 |
| Corpus Christi. | Tex. | 27 | 48 | CST | +83 | +59 | +45 | +31 | +1 +7 |
| Dallas-Fort Wo | Tex. | 32 | 47 | CST | +72 | +55 | +45 | +31 +35 | +18 |
| El Paso. | Tex. | 31 | 46 | CST | +111 | +92 | +82 | $+71$ | +182 |
| Galveston | Tex. | 29 | 18 | CST | +70 | +48 | $+35$ | +22 | $0$ |
| Houston | Tex. | 29 | 45 | CST | +71 | $\begin{array}{r}+49 \\ \hline\end{array}$ | +37 | +25 | +3 +3 |

## HURRICANE EXPECTANCY

Over a 41-year average, the statistics reveal that at sunspot maximum a Gulf of Mexico hurricane will come in just about every two years - whereas in years of sunspot minimum, once about every nine years. This year, 1968, is just about at the maximum. For Florida the expectancy is, for a severe storm, once every two years - for Georgia once every four.
In Texas, the expectancy is one hurricane every 1.4 years during sunspot maximums and every 9 years during minimums. The year of 1968 is approaching a maximum of sunspots towards the spring of the year.

It looks as if both Florida and Texas will be hit this year at least once.

## WEATHER FORECAST - SOUTHERN STATES

Verification Base: Atlanta, Georgia. However, this forecast should quite generally cover the Southern States, except possibly Florida and Northern Texas which have special climates all their own. The Winter is not summarized here as it doesn't mean too much in the South, except for migrant tourists who go there to enjoy reading about the storms going on up North. However, November and December, 1967 are included - just in case.

THE YEAR (JAN.-DEC. 1968)
Slightly cooler $\left(60.6^{\circ}\right)$ than normal which is $61.5^{\circ}$. The precipitation ( $51.64^{\prime \prime}$ ) is also just below normal (52.69"). There are two freezing periods which bear watching; viz., the last week of December, 1967. and between January 13 and 17, 1968. Tornadoes may come in the first two weeks of March and between April 5 and 8. June has two dangerous showers (11-13) and (22-27). Floods, August 21 through 27. September (19-25) has a hurricane threat, and a downpour is likely between November 21 and 30.

Nov. 1967: Avg. temp. 50.9 ${ }^{\circ}$. Rain $4.27^{\prime \prime}$. Very heavy rains the first week. Stormy the last week.

Dec. 1967: Avg. temp. 44.6 ${ }^{\circ}$. Rain 4.17". Heavy rains 7-13. Rain changes to sleet and a freeze, last week.
Jan. 1968: Avg. temp. $36.8^{\circ}$ (6.7 ${ }^{\circ}$ below normal). Rain 6.17". Heavy rains $5-10$ and during last week. Watch for freezing (13-17).
Feb.: Avg. temp. $38.4^{\circ}$. Rain $4.77^{\prime \prime}$. The rains will be very heavy during the second week (8-15), perhaps as much as $3^{\prime \prime}$ - and again during the last week (2229), but not over $2^{\prime \prime}$.

Mar.: Avg. temp. 52.5. Rain 5.80". Very wet and dangerous and disagreeable $5-11$, and again 18-23, with high probability of tornadoes all during the month - especially during the first two weeks.

Apr.: Avg. temp. $63.6^{\circ}\left(2.4^{\circ}\right.$ above normal). Rain 4.95". The South's rainiest week will be between the 12th and 18th, but that of the 5 th to 8th may carry tornadoes.
May: Avg. temp. 68.5 (normal $69.7^{\circ}$ ). Rain $3.75^{\prime \prime}$ (normal 3.45"). Heavy rains first week but not quite so heavy in the other three storm periods (11-17), (21-24), and (25-31).
June: Avg. temp. $78.8^{\circ}$ (normal $76.5^{\circ}$ ). Rain $4.58^{\prime \prime}$ (normal 3.87").

The two periods of heaviest rainfall, each of which may include dangerous showers are $11-13$ and $22-27$. Some rain may also be expected between the 6th and 8th.
July: Avg. temp. normal $78.6^{\circ}$. Rain normal 4.73". More rain will fall in this area between the 7 th and 10 th than anywhere else in the U.S.A., besides which showers of $1-3,1 t-16$ and 2126 won't seem like much.
Aug.: Avg. temp. $74.1^{\circ}$ (normal $77.6^{\circ}$ ). Rain $4.4^{\prime \prime}$ (normal $3.96^{\prime \prime}$ ). By far the heaviest storms here are between $6-11$ and $21-27$. The second one will canse floods.
Sept.: Avg. temp. $74.2^{\circ}$ (normal $73.2^{\circ}$ ). Rain normal $3.19^{\prime \prime}$. Three minor storms of rain (2-5). (13-15), and ( $27-30$ ). Chance of a hurricane or bad coastal rains between 19 th and 25 th.
Oct.: Avg. temp. 63.9 (normal $62.9^{\circ}$ ). Rain $2.80^{\prime \prime \prime}$ (normal 2.55"). Four rainy spells, the first two not as heavy as the last two (4-7), (12-15), ( $17-19$ ), and (2830).

Nov.: Avg. temp. normal $5 \underline{2} .1^{\circ}$. Rain $2.90^{\prime \prime}$ (normal 3.09"). Light rain $3-5$, cold storm of rain 10-13, downpour between 21st and 30 th .
Dec.: Avg. temp. $45.6^{\circ}$ (normal $44.6^{\circ}$ ). Rain $3.86^{\prime \prime}$ (normal 4.49"). Heavy rains (7-11), (1416), (19-21). Rain with sleet and freezing conditions between the 28 th and 31st.


## NEW ORLEANS' 250TH ANNIVERSARY

Unless some local historian discovers the exact day of February, 1718, on which Bienville founded New Orleans, we must assume that February 27, 1068 will be the Anniversary day long remembered in New Orleans history. For on this day of the annual Mardi Gras celebration, no doubt the founding also will be celebrated.

In looking over the history books, early and late, we would say New Orleans deserves a far larger share of space than has been given to it. Even John Fiske, from whose 1898 History of America we have snipped the above sketch, passes over it with a meager sentence or two. Saxon and Suydam's Fabulous New Orleans (Appleton-Century, 1939) more than makes un for all the other omissions. No city could ask for-or have been givena more charming or delightful recounting of its history than that given by the latter book. To quote from it would be absurd. It is for continuous, uninterrupted reading in toto.
To study the beginnings of New Orleans, one (curiously enough) goes to Montreal, Canada. Here were born two brothers. The first, Pierre le Moyne. Sieur d'Iberville (1661-1706) is "Iberville." The sccond (his brother), Jean Baptiste le Moyne, Sieur de Bienville (1680-1768) is "Bienville." Iberville, after a 10 -year litch in the Navy of Louis IX of France, returned to Canada to lead expeditions (1686-97) against British Trading Posts in Hudsou's Bay. In 1690 he was fighting for Schenectady, New York, and in 1696 not only destroyed Fort Pemaquid, Maine, but also captured St. John's in Newtoundland.

As if this were not enough history for one man, he, four ships, and his brother Bienville founded in 1699 (where LaSalle had failed) Old Biloxi (now Ocean Springs)
on the Gulf of Mexico. After retiring to Mobile in 1702, he took off a few years to capture the islands of Nevis and St. Christopher from the British in the West Indies. After that, on his way to conquer both Boston and New York. fate and the yellow fever of Havana wrote his final chapter.

In the best tradition of his brother, Bienville fought famine, Indians, Spain. Canada. and the neglect of his own country, to keep Biloxi alive. By 1717, during the monopoly of the French merchant Antoine Crozat, who in turn had given it to one John Law, Bienville was caught up in one of the most spectacular examples of fraudulence, the Mississippi Bubble, ever known to these United States or France. As Governor-General, at this time, of Louisiana, Bienville controlled a territory vaguely defined as the "regions included in the valleys of the great Western rivers between the Alleglienies and the Rocky Mountains." New Orleans, named after the Duke of Orleans in France, the leading patron of Law's bank and bubble, was made by Bienville, in 1718 , the leading city - in 1722, its capital.
By 1729, Law had died in porerty. Thousands of sharelolders had been ruined. Immigrants by the thousands, also badly disillusioncd, were stranded in the swamps around the city. Floods from the Mississippi wiped it out almost annually. But Bienville, now also remembered as one of the original 200 settlers, somehow nurtured it, protected it, and brought it to survival. In between times. he twice captured Pensacola from the Spanish-and gave the Natchez, as well as the Chickasaw Indians, a hard time. In 1743 he retired and spent his remaining days in Paris.

New Orleans owes much to the brothers Iberville and Bienville.

## THE CAUSE OF HURRICANES

In 1671, one $R$. Bohun, a Fellow of Oxford College, undertook to research the Winds - by numerous studies of the writings of historians prior to his time and interviews with the sea captains of his day.

By some they are called Huracanos, and by others, Orancan: yet I rather think the word was first borrowed of the Natives and deduced from a barbarous Origine.

We seldom hear of any Hurricanes but within the jurisdiction of the Trade Wind, which blowing perpetually from the East.

Although the progress of the trade wind is naturally direct, yet meeting with any impediment it whirls about in a circular motion. This cause was assigned by Dorisi to the dangerous storms that happen near the Equinoctial. I have been informed by planters in the Indies of an hurricane which happened in 1563 together with an earthquake. It was believed the Included Spirit which caused that palpitation in the bosom of the earth, being afterwards released from its imprisonment caused these dreadful tempests. Fouruier, a reputed author, mentioned an 1) inundation of the coasts of America, 2) an eruption of a burning mountain, and 3) an earthquake all happening at the same time i. near Hisco, 35 miles south of Lima, Peru. It is not unusual to have these three happenings and an hurricane - at about the same time and from the same cause.
For, the nitro-sulphureous spirit which causes the trembling of the earth, and the stupendous commotion of the seas afterwards breaks loose into the most horrid winds; especially in places that abound with these thundering minerals: which if we consider their active nature are the fittest materials for hurricanes. They are most to be dreaded about the end of summer, in the months of July, August, and September. For both winds and seas imitate the motions of the Sun and being dilated by the celestial heat, annually revert from North to South and from South to North again. So the Sun hasting from one to the other causes these conversions.
Hurricanes are usually preceded by an extraordinary tranquillity of the lheavens and the scas. Those in the center are at first sensible of no disturbance. The best accounts of early hurricanes are to be found in Gonzalo D'oviedo and in the jouruals of other Spaniards. But very few of these early journals come to our hands. I have found an

Oviedo and in it a description of the hurricane of August 3, 1508 at San Domingo. That country had been called Happy Adventure but after this storm which utterly wasted and destroyed it, they called it Misadventure. On July 10, 1509 another followed this one there, greater than the one before. Thereafter Santo Douningo was called the City of Two Hur-ricanes-and the work of the Devil.
Last year I received an accurate account of an hurricane from a sea captain who had brought his Frigat through one of these on his way to the Indies on August 18th, 16 hours after the new moon about 90 leagues from Barbados. This Captain observed hurricanes of the new moon begin at night, and those of the full moon in the day. Tlie terror of this storm was such the captain thought it to be the Emblem of Hell and the last dissolution of all things - thunder, lightning, and the whole air set on fire. It blew away an 18 -foot boat from the deck, the crosspiece, all the sails and four men of a five man crew which was on the fore yard.
Some old Indians seem able to give notice of these hurricanes three or four days before their coming. Some believe that hurricanes most often happen when the moon is in perigee or closest to the earth. Sailors have been warned of them by the winds circling around the compass beforehand. or if not around it altogether, shifting some 14 points back and forth. Birds before an lurricane come down in flocks from the mountains. Rain which falls a little before an hurricane will taste bitter and as salty as sea water.

Lord Bacon writes that there are certain expansive spirits in some minerals (particularly nitre) which exceed the force of hurricanes. Nitre alonc can effect no such wonders though by the addition of sulphur it can - such as in gunpowder, according to the greater or lesser alloys of sulphur or coal. Thus from the expansion of such raging minerals we can expect hurricanes. Since we have no better way to interpret Nature, we may with greatest probability derive these tempests from some such nitro-sulphureous exhalations. Such miraculous emotions of the atmosphere imust necessarily proceed from some very extraordinary cause.

## TIDE CORRECTIONS

To obtain the time and height of high water at any place, apply the differences below as they appear on pages $24-47$ to the daily predictions for Boston (Commonwealth Pier). Where a value in the "height difference" column is preceded by an *, height at Boston should be multiplied by this ratio. The daily times of high tide at Boston are in the "Full Sea" column, pages 24-46. Daily heights are on pages 25-47. For Great Lakes see page 99.

| Time Difference h.m. | Height Difference Ft. | Time <br> Difference h.m. | Height <br> Difference Ft. |
| :---: | :---: | :---: | :---: |
| MAINE |  | PENNSYLVANIA |  |
| Augusta . . . . +350 | *0.4 | Philadelphia . . . +2 29 | *0.5 |
| Bangor . . . . - 005 | $+3.6$ | DELAWARE |  |
| Bar Harbor . . - -0 33 | +1.1 | Rehoboth . . . . -337 | *0. |
| Boothbay Harbor . -0 20 | *1.8 | MARYLAND |  |
| Eastport - . . -0 28 | *1.9 | MARYLAND Baltimore |  |
| Old Orchard . . . -0 10 | $-0.7$ | Oaltimore ${ }^{\text {Ocean City }}$. . . -4 25 | *0.1 |
| Portland . . . . -0 Stonington 0 | $-0.6$ | DISTRICT OF COLUMBIA | *0.4 |
| $\begin{aligned} & \text { Stonington } \\ & \text { NEW HAMPSİRE } \end{aligned}$ | +0.2 | DISTRICT OF COLUMBIA <br> Washington . . . -3 08 | *0.3 |
| Hampton ${ }^{\text {d }}$ +0 15 | -1.2 | VIRGINIA |  |
| MASSACHUSETTS |  | Norfolk . . . . . -1 54 | *0.3 |
| Fall River . . . . -3 16 | *0.5 | Virginia Beach . . -3 14 | *0.3 |
| Falmouth . . . - 040 | *0.1 | NORTH CAROLINA |  |
| Hyannisport . . . +0 45 | *0.3 | Beaufort . . . -2 59 | *0.3 |
| Lynn . . . . . +0 05 | -0.2 | Carolina Beach . - -3 30 | *0.4 |
| Marblehead . . . -0 05 | *0.3 | SOUTH CAROLINA ${ }^{-3}$ | *0.4 |
| Marion Monument Beach -3 16 | *0.4 | SOUTH CAROLINA <br> Myrtle Beach. . . -3 45 |  |
| Monument Beach . -3 06 Nantasket . . . 010 | *0.4 | Myrtle Beach. . . -3 45 Charleston . . . . -3 15 | *0.5 |
| Nantasket . . . . +0 Nantucket +0 50 | $+0.1$ | Charleston . . . - 315 | *0.5 |
| Nantucket . . . . +050 | *0.3 | GEORGIA |  |
| New Bedford . . . -3 21 | *0.4 | St. Simon's Island -2 51 | *0.7 |
| Oak Bluffs . . . . +005 | *0.2 | Savannah . . . -2 40 | *0.8 |
| Onset . . . . . . -306 | *0.5 | Tybee Beach . . . -3 26 | *0.8 |
| Plymouth . . . . 000 | +0.1 | FLORIDA |  |
| Provincetown . . +015 | $-0.3$ | Daytona . . . -3 20 | *0.4 |
| Scituate . . . . Wellfleet | $-0.5$ | Fort Lauderdale . -2 15 | *0.3 |
| Wellfleet Woods Hole . . . | +0.6 | Jacksonville . . . -0 40 | *0.1 |
| Woods Hole . . . -3 01 <br> RHODE ISLAND | *0.2 | Miami . . . - 300 | *0.3 |
| $\underset{\text { Rlock Island . . }}{\text { RHOL }}$ | *0.3 | Palm Beach . . . -3 20 | *0.3 |
| Narragansett Pier ${ }^{\circ}-31$ | *0.4 | Port Everglades : - -2 20 | *0.3 |
| Newport . . . . -3 31 | *0.4 | St. Petersburg . . +358 | *0. 2 |
| Providence . . . -3 11 | *0.5 | WASHINGTON |  |
| Watch Hill . . - -2 06 | *0.3 | Ilwaco . . . . . +144 | -3.5 |
| CONNECTICUT Long Island Sound -0 02 |  | Port Townsend. . +504 | *0.5 |
| Long Island Sound New London . . . | $* 0.7$ $* 0.3$ | Seattle . . . +5 37 | $-2.0$ |
| NEW YORK |  | OREGON |  |
| Coney Island . . -300 | *0.5 | Astoria . . . . . +137 | -3.3 |
| Long Beach . . -3 57 | *0.5 | Cape Arago . . +1 19 | -4.8 |
| Long Island Sound +0 08 | *0.7 | Yaquina Head . . +1 12 | -3.7 |
| New York City . -2 50 | *0.5 | CALIFORNIA |  |
| Ocean Beach . . - -3 57 | *0.4 | Catalina Island . . -133 | -5.9 |
| Southampton . . -3 22 | *0.3 | Crescent City . . +0 56 | -5.0 |
| NEW JERSEY |  | Eureka . . . +1 20 | $-5.0$ |
| Atlantic City . . -3 57 | *0.5 | Long Beach . . . -1 37 | -5.5 |
| Bayside . . . . - 024 | *0.6 | Monterey . . . -0 03 | *0.4 |
| Cape May . . . . -3 37 | *0.5 | Point Mendocino . +0 24 | *0.4 |
| Ocean City . . . -3 17 | *0.4 | San Diego . . . . -1 35 | -5.9 |
| Seabright to $\quad-344$ |  | San Francisco . . +059 | *0.4 |
| Seaside Park ${ }^{\text {to }}$. . -3 44 | *0.5 | Santa Barbara . - 119 | -6.0 |
| Seaside Park |  | Santa Cruz . . +0 08 | *0.4 |

Example: The figures for Full Sea in Columns 10 and 11 of the left hand Almanac pages 24-46 are the times of high tide at Commonwealth Pler in Boston Harbor. The hcights of these tides are glven on the right hand pages $25-47$. The helghts are reckoned from Mean Low Water: each day has a set of figures-upper for the morning-and lower for the evening. The conversion of the times of the tides at Boston to those of Mlami is given by way of illustration.

Example: Apr. 18. See page 30, column 11, for time; page 31 for helght. BOSTON

MIAMI
High Tlde (from page 30) 3.30 P.M.E.S.T. April 18

Helght (from page 31) 8.8 feet

| High tide (Boston) | 3.30 P.M.E.S.T. |
| :--- | :--- |
| Correction above | -3.00 |
| High tide (Mlami) | -12.30 P.M.E.S.T. | Helght (Mlami)

( $8.8 \times 0.3$ )

## MOON WEATHER TABLE, <br> For foretelling the Weather through all the lunations of each year, forever.

This table, and the accompanying remarks, are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the sun and moon, in their several positions respecting the earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.

This weather table will answer very well for anywhere in the United States. It is taken from the 1849 issue of The Old Farmer's Almanac and was widely used before the advent of the Weather Bureau. Do not be surprised if the forecasts arrived at by this table do not agree with those on Pages 19, 91, 93, 97, 103. THE OFA goes by many factors besides the moon.

WEATHER TABLE FOR ANYWHERE

| Moon | Time of Change | In Summer | In Winter |
| :---: | :---: | :---: | :---: |
|  | From Midnight to 2 A.M. | Fair | Hard frost, unless wind be S. or W. |
|  | From 2 A.M. to 4 A.M. | Cold, with frequent showers | Snow and stormy |
|  | From 4 A.M. to 6 A.M. | Rain | Rain |
|  | From 6 A.M. to 8 A.M. | Wind and Rain | Stormy |
|  | From 8 A.M. to 10 A.M. | Changeable | Cold Rain if wind be W. Snow if E . |
|  | From 10 A.M. to Noon | Frequent Showers | Cold \& high wind. |
|  | From Noon to 2 P.M. | Very rainy | Snow or rain. |
|  | From 2 P.M. to 4 P.M. | Changeable | Fair \& mild. |
|  | From 4 P.M. to 6 P.M. | Fair | Fair. |
|  | From 6 P.M. to 8 P.M. | Fair - if wind <br> N.W. Rain - if <br> S. or S.W. | Fair \& frosty if wind N. or <br> N.E.: Rain or snow if wind <br> S. or S.W. |
|  | From 8 P.M. to 10 P.M. | Same as from 6 | M. to 8 P.M. |
|  | From 10 P.M. to Midnight | Fair | Fair \& frnsty. |

Observations. - 1. The nearer the moon's changes, first quarter, full, and last quarter are to midnight, the fairer will it be during the next seven days.
2. The space for this calculation occupies from ten at night till two next morning.
3. The nearer to midday, or noon, the phases of the moon happen, the more foul or wet weather may be expected during the next seven days.
4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the summer, though they affect spring and autumn nearly in the same ratio.
5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i.e., from four to ten, may be followed by fair weather; but this is mostly dependent on the wind, as is noted in the table.
6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet, in the main, the above observations will apply to those periods also.
7. To prognosticate correctly, especially in those cases where the wind is concerned, the observer should be within sight of a good vane, where the four cardinal points of the heavens are correctly placed.
The above table was originally formed by Dr. Herschell, and is now published with some alterations founded on the experience of Dr. Adam Clarke.

## TO THE WEATHER-WISE

M. Toalda of Padua (circa 1720) asserted that the weather changes most often ( $85.8 \%$ of the time) when the new moon comes in $; 83.4 \%$ with the full, and $66.7 \%$ with the other two phase changes. Recent studies by scientists with the U.S.W.B and N.Y.U. show heaviest rainfall comes 3 to 5 days after the new and the full moons.

Many blossoms on plum trees in the Spring, heavy fruit crops in the Fall, oak (and other) leaves remaining on trees in December indicate a severe Winter is coming up. The thickness of Fall fur on most animals, goose bones, pigs' melts, distance between caterpillar stripes also are Winter predictors. Birds, particularly owls, pileated woodpeckers, and swallows are predictors - as is, of course, the woodchuck. When hornets build nests high off the ground, expect deep snows. Bees, spiders, and ants - as well as certain flowers - are useful as short-term predictors. Nature, on the whole, however, is not easily understood and birds and animals, who should know, are often as misled by her as is mankind. (See page 138.)

## Continued from page 99

a decade. In the meanwhile, for the many in the Great Lakes area who lhave seen or heard about the sudden rises and drops in lake water levels, here is what the Corps has to say.
"These sometimes spectacular oscillations, which can make navigation treacherous and have frequently caused loss of life, occur as the result of strong winds blowing over these large masses of water and/or a significant difference in barometric pressure. Such a disturbance is called a 'seiche' (pronounced sash). A seiche is, by definition, a continuation of a water lerel disturbance after the external forces causing it have ceased to act. Those in the Great Lakes area are the result of severe stormis on the Lakes produced by the numerous intense squall lines that move across central North America on paths that converge in that region. They tilt the Lake's surface, causing the water to be low at one end and high at the other. As the forces abate, the resultant flow towards the low end can be compared to the 'sloshing effect' of water in a broad, shallow pan.
"Lake Erie, with its general sonthwest - northeast orientation and shallowness, is most susceptible to this phenomenon. Its location is elose to the mean wintertime position of the polar front and exposes it to wind action from severe storms, many of which reach their full intensity in the area. In extreme cases. these 'wind tides' have produced in excess of 13 feet difference between Buffalo and Toledo at opposite ends of its longitudinal axis. At individual sitce, such as at Toledo, Ohio, they have caused fluctuations to range from 6.5 feet above to about 7.5 feet below prevailing lake levels.
"The other Lakes, though not so susceptible as Lake Erie, are not imnune, as shown by the fact that at $9: 30$ a.m. on 26 June 1954, the Lake Michican levels at Clicago rose suddenly and reached 8 feet at Montrose Harbor and 10 feet at North Arenue. At least seven persons lost their lives. In addition, these sudden lows and highs result in other important reactions. The low waters are a hindrance to navigation and temporarily reduce power production. Their effects are particularly dangerous in harbors. In fact, in areas such as the mouth of the Detroit River and other sites, how water warning lights are displayed and periodic radio broadcasts arc made
to adrise mariners of the depths availalle in the area. The highs, in addition to sometimes claiming lives, also may cause appreciable damage to coastal installations, recreational facilities and boating.
"Observations of these fluctuations had been made as early as the 17th Century. Fra Marquette (1673). Baron Hontan (1689), Charlevoix (1721), and General Dearborn (1829) all noted these phenomena and attributed them to the moon and sun and called them tides. By 1831, Major H. Whiting expressed belief, however, that though an astronomical tide did exist, it was very small, and that the winds and variations in barometric pressure must be the real force behind these changes. Modern studies of these disturbances hare been, and are continuing to be, made. The U. S. Weather Bureau has already achieved considerable progress in forecasting these happenings so that the public may be forewarned. The U. S. Lake Surrey is further studring their effect on restricted channels and harbors on the lakes, so that shippers and recreational boaters will not be trapped by unexpected waves or currents. Lake surrey is also studring their effect on shore property in orcler to design and make structures suitable to prevent loss or damage due to these abnormalities."

On February 10, 1967. despite the fact there has been in recent years some concern about the gradual lowering of the Great Lakes water levels, surrers showed that all of the lakes are now holding their own-and were abore the normal 10 -year arerage. In this, Huron, Michigan, and Superior are not doing as well as the others - but are above. Rises normally begin in the spring and climax in June or Tuly. The levels then recede until it is spring again.

Incidentally - and purely so a well-knowin restauranteur in Chicago has acquired a considerable reputation as a forecaster. He maintains the fish seek the depths of the lakes as bad weather approaches, but, as it goes away, they come into the shallower levels to feed.

Dr. George ${ }^{W}$. Platzman at the University of Chicago, and Mr. Gcrhard C. Dohler, Water Resources Branch, Dept. of Mines, Ottawa - iu addition to the sources alreadr mentioned - are the ones to seck out for more detailed, scientific iuformation.

## Science Reveals

 New Facts about Liniment BenefitsOne of man's best known treatments for tired, aching muscles receives new confirmation of effectiveness from modern medical research


Probably the first treatments for sore, stiff muscles caused by overexertion was massage. Through the ages, man tried various combinations of tinctures, unguents and oils to improve the effectiveness of massage.

Absorbine Jr., a special combination of relief-giving medications, proved to have a most remarkablereliefeffect when massaged on tired, aching muscles.

While medical science has always known the beneficial effects of liniment massage, only recently, through the miracle of electronic research, have scientists actually been able to measure many benefits of the special Absorbine Jr. formula.

A leader in bio-medical elec-
tronics, using scientific procedures, proved that Absorbine Jr. brings back fatigued muscles twice as fast as nature can. Even without massage, the application of AbsorbineJr.doubled thespeed of recovery of fatigued muscles.

Many people are notaware this unique liniment actually treats the cause of sore, tired muscles. They "just sit and ache" or resort to pills in the hope of masking pain.

Now science confirms the beneficial effects of Absorbine Jr. No longer is it necessary to "just sit and ache." The new Pres-OMatic applicator makes it easy to use. Just rub on clean, refreshing liquid Absorbine Jr. and see how much faster you feel better.

## GESTATION AND REPRODUCTION TABLE

|  | Proper age for first mating | Period of power of reproduction in years | No. of females for one male | Period of gestation and incubation |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Shortest days | Mean days | Longest days |
| Mare | 3 yrs . | 10 to 12 |  | 325 | 336 | 352 |
| Stallion. | $4{ }^{\prime \prime}$ | 12 to 15 | 20 to 30 |  |  |  |
| Cow. | 18-24 mos. | 10 to 14 |  | 235 | 282 | 300 |
| Bull. | 12-18 "، | 10 to 12 | 30 to 40 |  |  |  |
| Ewe. | 18 "، |  |  | 145 | 147 | 152 |
| Ram. | 12-14 ${ }^{\text {¢ }}$ " | 7 | 35 to 45 | 110 | 114 | 120 |
| Boar | 9 " | 6 | 8 to 12 |  |  |  |
| She Goat. | 18 " | 6 |  | 147 | 151 | 155 |
| He Goat. | 18 " | 5 | 20 to 30 |  |  |  |
| Ass. | 3 yrs. | 10 to 12 |  | 356 | 367 | 378 |
| Jack. . . . . . | $4^{4}$ " | 12 to 15 | 20 to 30 |  |  |  |
| She Buffalo. | 18-24 mos. | 8 |  | 309 | 315 | 325 |
| Bitch. | 16-18 " | 8 |  | 58 | 63 | 67 |
| Dog. | 12-16 " | 8 |  |  |  |  |
| She Cat. | 12 mos. | 6 |  | 58 | 60 | 64 |
| He Cat . | 12 " | 10 | 6 to 8 |  |  |  |
| Doe Rabbit. | 6 " | 5 to 6 |  | 25 | 30 | 35 |
| Buck Rabbit. | 6 " | 5 to 6 | 30 |  |  |  |
| Cock. |  | 5 to 6 | 12 to 18 |  |  |  |
| Hen. |  | 5 to 6 |  | 19 | 21 | 24 |
| Turkey |  |  |  | 24 | 26 | 30 |
| Duck. . |  |  |  | 28 | 30 | 32 |
| Goose |  |  |  | 27 | 30 | 33 |
| Pigeon |  |  |  | 16 | 18 | 20 |
| Pea Hen... |  |  |  | 25 | 28 | 30 |
| Guinea Hen. . |  |  | . | 20 | 23 | 25 |
| Swan. . . . . |  |  |  | 40 | 42 | 45 |
| $\begin{aligned} & \text { Hen or Duck's } \\ & \text { Eggs. . . . } \end{aligned}$ |  |  |  | 22 | 30 | 34 |
| Robin's Eggs . |  |  |  | 13 | 16 | 19 |

## REPRODUCTIVE CYCLE IN FARM ANIMALS

Courtesy F. N. Andrews - Purdue University

|  | Reoccurs if not Bred (Days) | Estrual Cycle incl. Heat Period (Days) |  | In Heat for |  | Usual Time of Orulation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ave. | Range | Ave. | Range |  |
| Mare | 16 | 21 | 10-37 | $\begin{array}{r} 5-6 \\ \text { days } \end{array}$ | $\begin{gathered} 1-37 \\ \text { days } \end{gathered}$ | 24-48 hours before end of estrus |
| Sow | 19 | 21 | 18-24 | $\begin{aligned} & 2-3 \\ & \text { days } \end{aligned}$ | $\begin{gathered} 1-5 \\ \text { days } \end{gathered}$ | Usually second day of estrus |
| Ewe | 15 | 16 | 14-20 | 30 hours | $20-42$ hours | 1 hour before end of estrus |
| Goat | 19 | 20 | 12-25 | $\begin{aligned} & 36-48 \\ & \text { hours } \end{aligned}$ | $\begin{aligned} & 20-80 \\ & \text { hours } \end{aligned}$ | Near end of estrus |
| Cow | 20 | 19-20 | 16-24 | 16-20 hours | $\begin{array}{r} 8-30 \\ \text { hours } \end{array}$ | 14 hours after end of estrus |
| Bitch | 180 | 24 |  | $\begin{gathered} 21-28 \\ \text { days } \end{gathered}$ |  |  |
| Cat | 120 |  |  | $\begin{aligned} & 3-12 \\ & \text { days } \end{aligned}$ |  |  |

## STATE EXTENSION DIRECTORS

Consult these men about your garden and farm problems. They know the answers. Courtesy Ralph M. Fulghum, Assistant Director, Information Services, U.S. Dept. of Agriculture, Washington, D.C. 20250. *All general correspondence is conducted by the Asso. Dir.

Alabama:
Alaska:
Arizona:
Arkansas:
California:
Colorado :
Connecticut:
Delaware:
Florida:
Georgia :
Hawaii:
Idaho:

Illinois :
Indiana:
Iowa:
Kansas:
Kentucky:
Louisiana:
Maine:
Maryland:
Massachusetts:
Michigan:
Minnesota:
Misslssippi:
Missonri:
Montana:
Nebraska:
Nevada:
New Hampshire: New Jersey:
New Mexico:
New York:
North Carolina:
North Dakota:
Ohio:
Oklahoma:
Oregon:
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Texas:
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Virginia :
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Wisconsin:
Wyoming:
F. R. Robertson, Auburn Unir., Auburn 36830.
A. S. Buswell, Univ. of Alaska, College 99735.
G. E. Hull, Univ. of Arizona, Tucson 85721.
C. A. Vines, Box 391, Little Rock 72203.
G. R. Alcorn, Univ. of Cal., 2200 Univ. Ave., Berkeley 94720.
L. H. Watts, Colorado State U., Fort Collins 80521.
*S. A. Blee (A.D.)-Same address.
E.J. Kersting, Univ, of Connecticut, Storrs 06268. * H. M. Hansen (A.D.) - Same address.
S. M. Gwinn, Univ. of Delaware, Newark 19711.
M. O. Watkins, Univ. of Florida, Gainesville 32601.
L. W. Eberhardt, Jr., U. of Ga., Athens 30601.
C. P. Wilson. Univ. of Hawaii, Honolulu 96822.
${ }^{*}$ D. N. Goodell (A.D.)-Same address.
J. E. Kraus, Univ. of Idaho, Moscow 83843.
*C. O. Youngstrom (A.D.), $317 \frac{1}{2}$ N. 8th St., Boise 83702.
J. B. Claar, Univ. of Illinois, Urbana 61801.
H. G. Diesslin, Purdue University, Lafayette 47907.
M. A. Anderson, Iowa State University, Ames 50010.
I. E. Jones, Kansas State Univ., Manhattan 66502.
V. A. Seay, Univ. of Kentucky, Lexington 40506.
*G. W. Sclineider (A.D.)-Same address.
J. A. Cox, La. State U., Baton Ronge 70803.
W. C. Libby, Univ. of Maine, Orono 04473.
*E. H. Bates (A.D.)-Same address.
R. D. Cassell (A.D.), Unir. of Maryland, College Park 20742.
A. A. Spielinan, Univ. of Mass., Amherst 01002.
*J. R. Beattie (A.D.)-Same address.
G. S. McIntyre, Mich. State Univ., E. Lansing 48823.
L. J. Pickrel. U. of Minn., St. Paul 5.101.
W. M. Bost, Miss. State Univ., State College 39762.
C. B. Ratchford, Univ. of Missouri, Columbia 65201.
T. S. Aaslieim, Mont. State Univ., Bozeman 59715.
J. L. Adams, Univ. of Nebraska, Lincoln 68503.
D. W. Bohmont, Univ. of Nevada, Reno 89507.
*J. F. Stein (A.D.) -Same address.
S. W. Holtt, Univ. of N. H., Durham 03824.
J. L. Gerwig, Rutgers Univ., New Brunswick 08903.
P. J. Leyendecker, N. M. State U., Unlv. Park 88070.
*A. E. Triviz (A.D.) -Same address.
A. A. Johnson, N.Y. St. Col. of Agr., Ithaca 14850.
G. Hyatt, Jr., N.C. State Univ., Raleigh 27607.
A. H. Schulz, N. D. State Unic., Fargo 38102.
R. M. Kottman, Ohio St. Unir., 2120 Fyffe Rd., Columbus 43210. E. L. Kirby (Ä.D.)-Same add.
J. C. Evans, Okla. State Univ., Stillwater 74074.
G. M. Lear, Oregon State Univ.. Corvallis 97331.
T. H. Patton, Penn. State U., University Park 16802.
J. W. Cobble, Univ. of R. I., Kingston 02881.
*J. L. Rego (A.D.)-Same address.
G. B. Nutt, Clemson Univ., Clemson 29631.
J. T. Stone, S. D. State Unlv., Brookings 57006.
V. W. Darter, U. of Tenn., Box 1071, Knoxville 37901.
J. E. Hutchison, Tex. A\&M U., College Sta. 77843.
W. H. Bennett, Utah State Univ., Logan 84321.
R. P. Davison, Univ. of Vermont, Rurlington 05401.
W. E. Skelton, Va. Poly. Inst., Blacksburg 24061. J. P. Miller, Wash. State Univ., Pullman 99163.
E. J. Nesius, Mineral Industrles Bldg., W. Va. Univ., Morgantown 26506.
*R. J. Verhaalen (A.D.), 128 Wiley St., W. Va. Univ., Morgantown 26506.
D. R. MeNeil, Unir. of Wis., Madison 53706.
*H. L. Ahlgren (A.D.)-Same add.
N. W. Hilston, Univ. of Wyo., Box 3354, Univ. Sta., Laramie 82070. *L. Schilt (A.D.)-Same add.

## 

| State | Max. Speed Open Hwy. (R-Reasonable) | Date Regis. Expires (Incl. Grace) | Driv- ing License Mini- mum Age | Gaso- <br> line <br> Tax | Pe Cent Sales Tax | $\begin{gathered} \text { Non-R. } \\ \text { Days } \\ \text { of } \\ \text { Stayl } \\ \text { (R-Re- } \\ \text { ciprocal) } \\ \hline \end{gathered}$ | Min. Cost of Regis. (3M lbs.100 HP ) | Cost Term Driver's License | Chem Test Law |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ala. | $60-50 \mathrm{~N}$ | 11/15 | 16 h | \$.07 | 11/2 | 30 | \$ 3.75 | \$4.25-2Y | B |
| Alaska. | 50 | 5/31 | 16 a | . 08 |  | 90 | 30.00 | 5.00-3Y | B |
| Ariz. | $50-45 \mathrm{~N}$ | 12/31 | 18 f | . 07 | 3 | 1804 | 6.25 | 2.50-3Y | A |
| Ark. | 60 | 1/31 | 14 ac | . 075 | 3 | $10^{5}$ | 12.00 | $2.00-1 \mathrm{Y}$ | A |
| * Cal. | 65 | $2 / 6$ | 16 f | :07 | $3 \dagger$ | 3 | $10.00 \dagger$ | $3.00-3 \mathrm{Y}$ | C |
| Colo. | 60 | 2/28 | 21b | . 06 | 3 | 30 | 7.10 | $2.25-3 \mathrm{Y}$ | A |
| *Conn. | 60 | 2 | 16 ft | :06 | $31 / 2$ | 60 | 10.00 | $6.00-2 \mathrm{Y}$ | C |
| Del.. | 60 | 2 | 16 | . 07 |  | 90 | 20.00 | 4.00-2Y | A |
| *D.C. | R | 3/31 | 16 a | . 07 | - | R1 | 22.50 | 3.00-3Y | A |
| Fla. | 65-55N | $4 / 20$ | 16ag | . 07 | 2 | R | 22.22 | $3.00-2 \mathrm{Y}$ | B |
| *Ga.. | 60-50N | $4 / 1$ | $16{ }^{\text {b }}$ | . 065 | 3 | 30 | $5.00 \dagger$ | 2.50-2Y | A |
| Haw | 45 | $3 / 31$ | 15 i | .085-11 |  | 10 or ${ }^{3}$ | $15.00 \dagger$ | 3.00 | A |
| Ida. | 60-55N | 12/31 | 16 g | . 06 | 3 | - | 17.50 | $6.00-3 \mathrm{Y}$ | C |
| *III. | 65 | $3 / 1$ | 16k | . 05 | $31 / 2$ | R | 22.50 | 3.00-3Y | A |
| *Ind. | 65 | 2/28 | 16† | :06 | 2 | 60 | 12.00 | 1.50-2Y | A |
| *Iowa. | $70-60 \mathrm{~N}$ | 1/31 | 165 | . 07 | 2 | R | $12.00 \dagger$ | $5.00-2 \mathrm{Y}$ | C |
| *Kan. | $70-60 \mathrm{~N}$ | 2/15 | 16 g | :05 | 3 | R | 10.00 | $3.00 \dagger$ | C |
| Ky.. | $60-50 \mathrm{~N}$ | 3/1 | 163 | . 07 | 3 | R | 5.00 | 2.00-2Y | A |
| La.. | 60 | 2 | 15 | . 07 | 2 | R | $6.00-2 Y$ | 2.50-2Y | B |
| Me. | 45 | 2/28 | 15h-17 | . 07 | 4 | R | 15.00 | 5.00-2Y | A |
| *Md. | 55 | 3/31 | 16k | . 07 | 3 | 30 | 15.00 | 7.00-2Y | A |
| Mass... | R | 12/31 | 161/2fa | . 065 | 3 | R | 6.00 | $5.00-2 \mathrm{Y}$ | A |
| *Mich... | 65-55N | 2/28 | 16afg | . 06 | 4 | 90 | 10.50 | 5.50-3Y | A |
| *Minn. | $65-55 \mathrm{~N}$ | 3/1 | 16 ef | . 06 | - | R | $5.25 \dagger$ | 3.00-4Y | C |
| *Miss. | 65 | 10/31 | 15. | . 07 | 2 | 30 | 12.00 | $2.50-1 \mathrm{Y}$ | B |
| *Mo.... | 65-60N | , | 16 j | . 05 | 3 |  | 37.50 | $2.00-3 \mathrm{Y}$ | C |
| Mont. | R-55N | 2/15 | 15ae | . 06 | 11/2 $\dagger$ | 60 | 10.50 | $4.00-2 \mathrm{Y}$ | A |
| *Nebr. | 65-60N | 2/28 | 16 gm | . 075 |  | R | 9.00 | 3.00-2Y | C |
| Nev.. | R | 12/31 | 16 n | . 06 | 2 | 8 | 5.50 | 3.00-5Y | A |
| N.H. | 50 | 3/31 | 17 f | . 07 | - | R | 15.00 | 10.00-2Y | C |
| N.J.. | 50 | ? | 170 | . 06 | 3 | 60 | 15.00 | $3.00-1 \mathrm{Y}$ | C |
| *N.M. | 70-60N | 3/2 | 18 jq | . 06 | - | - | $30.00 \dagger$ | 3.25-2Y | B |
| *N.Y. | 50 | 2 | 18bp | . 06 | 2 | R | 22.50 | 5.00-3Y | C |
| *N.C. | 65 | 2/15 | 16af | . 07 | 11/2 | R | 10.00 | $2.50-4 Y$ | D |
| N.D. | 60 | 12/31 | 16 u | . 06 | $21 / 4$ | R | 32.00 | $3.00-1 Y$ | C |
| Ohio.. | 60-50N | 4/15 | 16 e | . 07 | 3 | R | 10.00 | .75-3Y | B |
| Okla. | $65-55 \mathrm{~N}$ | 3/2 | 16 d | . 065 | 2 | 60 | $19.50 \dagger$ | 4.00-2Y | B |
| Ore.. | 55 | 2 | 16 g | . 06 | - |  | 10.00 | 3.00-2Y | C |
| Pa. | 50 | 3/31 | 18 b | . 07 | 5 | R | 10.00 | 4.00-2Y | A |
| *R.I. | $50-45 \mathrm{~N}$ | 3/31 | 16 | . 07 | 4 | R | 11.00 | $8.00-2 Y$ | C |
| S.C. | $60-55 \mathrm{~N}$ | 10/31 | 16 h | :07 | 3 | - | 5.30 | $2.00-4 Y$ | A |
| S.D. | $70-60 \mathrm{~N}$ | 3/31 | 16 g | . 06 | - | 60 | 17.00 | $3.00-4 \mathrm{Y}$ | C |
| Tenn... | $65-55 \mathrm{~N}$ | 3/31 | 16 g | . 076 | $3 \dagger$ | 30 | 13.25 | 4.00-1Y | A |
| Tex. | $70-65 \mathrm{~N}$ | 4/1 | 16 g | . 05 | 2 | R | 11.88 | $3.00-2 Y$ | B |
| Utah. | R | 2/28 | 17 | :06 | $31 / 2$ |  | 6.00 | $3.00-3 \mathrm{Y}$ | C |
| *Vt. | 50 | 2/28 | 18 b | . 065 | 3 | R | 32.00 | $3.00-1 Y$ | C |
| -Va. | 55 | 4/15 | 18ad | . 07 | 2 | 60 | 15.00 | $6.00-3 \mathrm{Y}$ | C |
| *Wash. . | 60 | 1/30 | 16 d | . 075 | 4.2 | 60 | $8.60 \dagger$ | $4.00-2 \mathrm{Y}$ | A |
| W.Va. | 55 | 6/30 | 16 as | . 07 | 3 | 30 | 20.00 | 5.00-4Y | A |
| *Wis.... | $65-55 \mathrm{~N}$ | 2 | 16 g | . 07 | 3 | R | 18.00 | $2.50-2 \mathrm{Y}$ | A |
| Wyo... | 65 | 3/1 | 16 st | . 05 | 3 | 15 | 7.50 | 2.50-3Y | A |

[^2]
## FEBRUARY'S FIVE SUNDAYS

A writer in the Cleveland Leader answers a query as to when we shall have another February with five Sundays. He says: "There are five Sundays in the month of February this year of 1880 -something that will not occur again for 40 years. The years containing five Sundars in February recur in regular order every 400 sears. The order is as follows: Three times with intevals of 28 years each, and then comes one after an interval of 40 rears; then two with intervals of 28 years each, then one after 40 years, then two after intervals of 28 years each, and then there is an interval of 40 years before another such year. This is followed by three intervals of 28 years each. This will occupy 400 years, and then the same order will come round again. The following are the years that have had and will have five Sundays in February during the present period of 400 years: 1604, $1632,1660,1688,1728,1756,1784,1824,1852,1880.1920,1948,1976,2004$. The following are the conditions necessary in order that five Sundays may happen in February : First, the year must be a leap year: second, the first day of January must fall on Thursday. February 1866 had no full moon. This never occurred before and will not reoccur for $2,500,000$ years. Pope Gregory XIII made a new rule for leap years. It is as follows: The leap years are, first, those whose numbers are exactly divisible by 4 and not by 100 ; second, those whose numbers are divisible by 400 and not by 4000 .

## GLOSSARY OF ASTRONOMICAL TERMS, ETC.

Aph. - Aphelion . . . Planet revolving about Sun reaches point in its orbit farthest away from the Sun.
Apo. - Apogee . . . Moon reaches point in its orbit farthest from Earth.
Conj. - conjunction . . . moment of closest approach to each other of any two heavenly bodies.
Declination (see top left hand calendar pages) .. . measure of angular distance any celestial object lies perpendicularly north or south of celestial equator. Exactly analogous to terrestrial latitude. OFA gives declination at time each day the Sun is due South.
E1. - elongation . . . apparent angular distance of a member of the solar system from the Sun as seen from the Earth.
Inf. - Inferior . . . Inferior conjunction is when the Planet is between the Sun and the Earth.
Moon Runs High or Low . . . day of month Moon Souths highest or lowest above the horizon.
Occulted . . . hidden from view.
Opposition . . . time when Sun, and Moon or Planet appear on opposite sides of the sky (elongation 180 degrees).
Peri. - Perigee . . . Moon reaches point in its orbit closest to Earth.
Peri. - Perlhelion . . . Planet revolving about the Sun reaches point in its orbit closest to Sun.
R.A. - Right Ascenslon . . . the measure Eastward along the celestial equator of any celestial body from the vernal equinox to the point where the circle which passes through the object perpendicular to the celestial equator inter-
-s sects the latter.
Stat. - stationary . . . when the apparent movement of a Planet against the background of Stars stops - just before same comes to opposition.
Sunrlse and Sunset . . . visible rising and setting of Sun's upper limb across the unobstructed horizon of an observer whose eyes are 15 feet above ground level.
Sun Fast . . . the times given in this column must be subtracted from your Sun Dial to arrive at the correct time.
Sup. - Superior . . . Superior Conjunction is when the Sun is between the Planet and the Earth.
Twilight . . . begins or ends when stars of the sixth magnitude disappear or appear at the Zenith - or the Sun is appr. 18 degrees below the horizon.
Underground Moon. . . one which changes its phases between 12 M. and 1 A.M.

## Continued from page 18

At Denver, Col., $37.7^{\prime \prime}$ snow fell (over $100^{\prime \prime}$ was predicted). The Mountain States, however, did (see page 103 last year's Almanac) receive a lot more snow than the Denver station indicates.

Finally, Atlanta, Ga. (for which Abe omitted Nov. and Dec. as Atlanta really has no Winter) had $12.25^{\prime \prime}$ of rain during Jan.-Feb.Mar., whereas A be had looked for $17^{\prime \prime}$.

MASSACHUSETTS TURNPIKE: G. G. Hyland, Maintenance Engineer of the Massachusetts Turnpike (Boston-Lee) has again sent us his record of snowstorms from Nov., 1966 through May, 1967. Total accumulation at Boston was $70^{\prime \prime}$ - at Weston, $82^{\prime \prime}$ (which compares favorably with Abe's $89^{\prime \prime}$ for Blue Hill) - at Lee $116^{\prime \prime}$. There were 19 storms at Boston; 31 at Lee. The seven storms of $5^{\prime \prime}$ or more occurred on Christmas Day, Feb. 6, 7, Mar. 7, 16, 21, 22. Of the 34 stormy days on which MTA crews should have been alerted, Old Abe predicted 19 correctly, 4 a day early. The other 11 he missed - making his average close to $\mathbf{7 0 \%}$.

The foregoing comparisons between Abe's forecasts and the actuallties may seem ridiculous. Many are so far off you may ask, "Why bother?" To this we reply, "Abe tries to make an honest forecast, and we try to give you an honest verification."

## WINNERS OF THE 1967 ESSAY CONTEST

(See page 120, 1967 OFA) were: Mrs. Mullin (1st, \$25.00); Diane Bewersox, New Bethlehem, Pa. (2nd, $\$ 15.00$ ) ; Mrs. Kathryn Cunningham, New Matamoras, Ohịo (3rd, \$5.00).

## The Winning Essay

"THE LARGEST VEGETABLE"
Beneath a well-watered deep mulch of grass clippings on a threc-foot square spot. I daily buried table scraps, regetable, fruit and flower wastes, manure from our two dogs, and ashes from the burning can where meat scraps and bones were burned with paper and wood.

For three weeks I let it lay, soaking the plot twice weekly. Then 'I planted my enriched slte, using whole red "sced" potatoes, nine inches apart.

We enjoyed "new" potatoes for weeks before liarvesting two buckets full of fine potatoes, lincluding three over-sized specimens, measuring over fifteen inches around.

Mrs. Arlene Mullin, Oceano, Calif.

## 1968 ESSAY CONTEST

For 1968, the moncy will go (1st, $\$ 25.00-2 \mathrm{nd}, \$ 15.00-3 \mathrm{rd}$, $\$ 5.00$ ) for the best 100 -word essay on "How I Protect My Garden from lugs and Predators." Contest closes May 1, 1968.

No entries returned; all become property of Yankee, Inc., which reserves all rights in the material submitted. Case of tie, place money lumped and divided. Staff of YANKEE, final judge. Winners announced 1969 OFA.

Address: Essay Contest, Yankee, Inc., Dubliu, N.H. 034tt.

ANSWERS TO
CHARADES, ETC.
ON PAGE 85
(1) Mistake. (2) Mother Goose Melodies. (3) "Be upright and honest, industrious and wise. Abounding in virtue, abandon all vice." (Bee upright $\&$ on est in duster ious \& y's A bound in G in virtue ab \& on awl vise). (t) Stone. (5) By walting 'til the bird had flown away. (6) Your little toe. (7) The vowels: a, e, i, o, u. (8) The letter M. (9) "A simple maiden in her flower is worth a hundred coats of arms." (Ace imp ell maiden in HER flower is $W$. earth a hundred coats of arms). (10) Horse. (11) Weather. (12) The letter "a" (it makes her hear). (13) "Least said soonest mended." (Least said soo nest men ded). (14) C-lad, D-ark, Bright, C-art, H-ash.

## ANSWERS TO

## OLD-FASHIONED

 PUZZLES ON PAGE 84(1) The rope is 5 feet long and the monkey is $11 / 2$ years old. (2) October 1, 1981. (3) The innkeeper was forced to entertain his guests for 110 years and $1+2$ days. During that time, the eight gentlemen assumed 40,320 different positions at meals. (Such is the price of ignorance.) (4) 384. (5) One square foot. (6) Smith. (7) 21 minutes and $49-1 / 11$ seconds after 10 .

## THE NINEPENNY PIECE <br> (Author and woodcut artist unknown)

- ON A BEAUTIFUL morning in summer, Mrs. Thornton rose earlier than usual and awoke her son and daughter. She then informed Francis that he could see the fair, which was to be held in a nearby village where one of his aunts resided. The heart of little Francis palpitated with joy at this grand intelligence. Attired in a morniug habit, with little sister Emma by ler side, Mrs. Thornton accompanied him a considerable way on the road, till they reached the sliade of a beautiful tree, where she sat down and gave Francis particular directions regarding his conduct at his aunt's, and as he passed through the fair. Then she bade him farewell, and Francis went happily off.

A poor old blind man, who had been very unfortunate, was seated on the road-side, and raised his plaintive voice whenever lie heard any one approaching. He had nothing to support him but the alms of

such passengers as came that way, many of whom bestowed their charity; while others, who had nothing to give, would generally say "God help you!" The good man prayed equally for those who assisted him and those who recommended him to God.

Francis stopped opposite to the blind man, and looked at him with great compassion. "Poor man!" said he to limself, "you can neither see beautiful fields nor the sun. It is just the same as when I open my eves in a very dark night; and this poor mau cannot do any thing tor himself, and must die with hunger if he is not assisted. O how sorry I am that I have not anything to give him! Wheu I grow a man, if I am rich enough, I will give alms to all the poor people I uneet." He again looked compassionately at the blind man, and on

going away, cried "God bless you, my good man!" "I am much obliged to you, my child," replied the poor man; "may God bless you also, and give you grace to become a good man."

The wish of the old man sensibly affected the heart of the child, and a tear trickled down his cheek. "O how unfortunate I am," he said, "in not having any thing to give him!", At length he approached the village, and began to hear some children who were dancing under a large elm-tree, when he saw upon the road a piece of money
half covered with dust. He instantly stooped down to pick it up, and found it was a ninepenny piece. His heart leaped for joy, and his first thought was of the blind man. "Suppose I run and give him this ninepenny-piece," said he; he turned about, and reflected that if he went with expedition he could be there in five minutes. That he could easily do; and when it is to do a good action one should never think of the time.

He hesitated a little, however, and reflected that with this ninepiece he might buy something at the fair, and it was a melancholy thing to walk between rows of booths without being able to spend even nine-pence-and it would appear so very shabby to have an empty pocket. "Yes," said he; "but then this poor man perhaps has nothing to buy his dinner with, and ninepence would be sufficient to get him bread for the day, while I shall be nicely feasted at my aunt's. Come, I will carry the ninepence to the poor old man; for certainly I have no right to it." He still hesitated about taking it to the poor nan, for it was so long since he was in possession of ninepence.

While the little simpleton was hesitating between the pleasure of doing good to an unfortunate fellow-creature and that of satis-

fying a foolish fancy, a number of children about his own age came up, hallooing and jumping after a show-man, who was carrying a large show-box on his shoulders. He quickly joined the party, and followed the show-man. The man soon fixed his stage, and began to perform a little, to attract the crowd. When the crowd was sufficiently great, he announced a much more magnificent show. This was the magic lantern, where for ninepence they might see wonders, such as kings, quecns, and great men, also the principal cities in the world. This was sufficient to tempt children even less curious than Francis.

While they entercd in crowds, this foolish boy remained in a state

or indecision at the door, turning in his pocket the precious piece of money. The man insisted on every one to walk in, and the more to touch their pride, he concluded every intimation by crying with all his might-"Yes, gentlemen, to deprive yourselves of such a sight, you
must certainly be without ninepence in your pocket. Yes!" said he, with still greater emphasis, "you must positively be without ninepence in your pocket." He then by chance looked at Francis, who immediately thought it must be himself only whom the man addressed; and determined to let them see that he was not so poor, he took out his money and entered with the others. The fine show lasted only a quarter of an hour, and the child came out as poor as he was before he had found the ninepence.

The remembrance of the blind man considerably disturbed the pleasure which he enjoyed, and he went quite dejected to his aunt's, saying, in order to reconcile his conscience, "She will certainly give me some money for the fair, which I will not spend, that I may give it to the poor man as I return home."

But things did not turn out as he expected. His aunt treated him, as he had anticipated, with all sor'ts of dainties. She gave him no money, but bought him at the fair some marbles and a trumpet, and sent him away, cautioning him not to stop or play by the road. He

was at first very pensive, but soon he took out his trumpet, and began to blow with all his might; when he found himself at a little distance from the blind man, however, he did not blow so strongly, and before he reached him, put up his trmmpet. He even went on the other side of the way, and walked as if afraid of being heard; but the blind man, whose hearing was very quick, did not let him pass, without presenting to him the same petition as before; "Please to bestow your charity on a poor blind man, who has no other means of subsistence but from your beneficence." His words touched the child to the heart, and he durst not answer, but went away as dis-

satisfied with himself as if he had stolen the ninepence from the unfortunate man.

This uueasiness was renewed whenever he passed that way, whether the blind man was there or not; and it lasted until such time as he had the happiness of carrying him ninepence, which he amassed with great care, by a cent at a time. "Thank God," said he, with an effusion of joy, "I can now pass by him, and pray to God to bless him."

These reflections made such an impression on the heart of this child, that he was ever afterwards fearful of laying out his money on trifles, lest he should mect with some object whom he might wish to relieve, and by his extravagance be deprived of that pleasure.

## Plostal Yams

Correct as of Mav 1, 1967. Proposed new rates will undoubtedly take effect long before 1968 Tolls around. Letters will probably go up to 6c, postals to 5c, airmail to 9c, air cards to $\gamma c$. As we have no way of knowing what Congress will do about these increases, all we can do is give you the rates as they are at our press date of June 1, 1967. Parcel post probably won't change $t 00$ much.

Flrst Class Matter may be forwarded from one Postoffice to another without additional postage but other matter must have new postage.

LETTERS AND POSTAL CARDS. - FIRST CLASS.
Letters and Written and Sealed Matter, 5 cents for each ounce, iocal and non-local except that drop letters are subject to 4 cents for each ounce when deposited for local delivery at offices not having letter-carrier service, provided they are not collected or delivered by rurai or star-route carriers.
 Government Postal Cards, each
Stamped 5 cent Envelopes No. $10-\$ 29.20,500-\$ 58.40,1000$.
Business Reply Cards 6 cents, Business Reply 1 oz. letters 7 cents.

## NEWSPAPERS AND PERIODICALS. - SECOND CLASS.

Entire Newspapers or Magazines containing notice of second class entry when mailed by public unsealed, 4 cents for 1 st two ounces, 1 cent each added 1 oz. Fourth Class Rate appiles when it is lower than Second Ciass.

## MERCHANDISE AND MISCELLANEOUS. - THIRD CLASS. <br> (Limit of weight up to but not including 16 ounces)

Merchandise, incomplete copies of newspapers, printed and other mailable matter unsealed, 4 cents for first two ounces, 2 cents each add'i ounce-iimit 16.
Identical pieces of third-class matter may be mailed under permit in bulk lots of not less than either 50 pounds or 200 pieces, at the rate of 18 cents a pound, or fraction thereof in case of circulars, miscellaneous printed matter, and merchandise, and 12 cents a pound, or fraction thereof, in the case of books or catalogs having 24 pages or more, seeds, piants, etc., with a minimum charge of $27 / 8 \mathrm{c}$ a piece in either case. Apply to postmaster for permit. The bulk mailing fee is $\$ 30$ per calendar year.
Books, catalogs (must be of 24 or more pages and substantialiy bound, with at least 22 pages printed, seeds, cuttings, buibs, roots, scions and plants, 2 ounces or fraction 4 cents, each added ounce 2 cents.)
Circulars and other miscellaneous printed matter, also merchandise, 4 cents for the first 2 ounces and 2 cents for each additional oz.

## PARCEL POST. - FOURTH CLASS.

( 16 oz . or over, incl. books, ptd. matter, except 1st ciass and second class papers mailed by publishers)
Catalogs and Similar Printed Advertising Matter, in bound form having 24 or more pages, welghing 16 ounces but not exceeding 10 pounds. (See Postmaster)

| ZONES, Wgt. 11b. | Local | 1 st \& 2 nd | 3 rd | 4 th | 5 th | 6 th | 7 th | 8 th |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| And not over 1.5 ibs. | 23 c | 29 c | 30 c | 31 c | 33 c | 35 c | 38 c | 41 c |
| And not over 10 lbs. | 39 c | 54 c | 60 c | 69 c | 89 c | 95 c | 1.12 | 1.29 |

Books: 10 cents for the first pound or fraction thereof and 5 cents for each addition pound or fraction thereot-24 or more pages permanentiy bound, not to exceed 70 lbs. Also incl. sound recordings. Also incl., when marked "Speciai Fourth-Class Rate," ptd. music, 16 mm . films and 16 mm . film cataiogs (Exc. to commercial theatres), objective test materiai, sound recordings and mss. for books, periodical articles and music.
Library Books: 4 cents for the first pound or fraction thercof and 1 cent for each additionai pound or fraction thereof--limit of weight 70 pounds-when sent by pubile libraries, organizatlons, or assoclations not organized for proft.
Weight Limits: 70 lbs . and 100 inches comblncd length and girth-except between 1st Class postoffices (Postmaster has iist) where iimits are: In zones 1 and 2, 40 lbs. with 72 inch combined length and girth, other zones 20 lbs , and 72 lnch combined ength and girth. Parcels over 84 but under 100 inches combined length and girth charged as 10 pounds.

|  | LOCAL | 1-2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wt. 1 lb. |  | Up to | 150 to | 300 to | 609 to | 1000 to | 1400 to | Over |
| but not |  | 150 | 300 | 600 | 1000 | 1400 | 1800 | 1800 |
| over |  | miles | milles | miles | miles | miles | miles | nuiles |
| 2 | \$0.40 | \$0.50 | $\$ 0.50$ | 80.55 | 80.60 | \$0.70 | \$0.75 | \$0.80 |
| 3 | .40 | . 5.5 | . 60 | . 65 | . 75 | . 85 | . 95 | 1.05 |
| 4 | .45 | . 60 | . 65 | . 75 | . 85 | 1.00 | 1.10 | 1.25 |
| 5 | .45 | . 65 | . 70 | . 80 | . 95 | 1.10 | 1.30 | 1.45 |
| 6 | .45 | . 70 | . 80 | . 90 | 1.05 | 1.25 | 1.45 | 1.65 |
| 7 | . 50 | . 80 | . 85 | 1.00 | 1.15 | 1.40 | 1.60 | 1.85 |
| 8 | . 50 | . 85 | . 90 | 1.05 | 1.30 | 1.50 | 1.75 | 2.00 |
| 9 | . 55 | . 90 | . 95 | 1.15 | 1.40 | 1.65 | 1.90 | 2.20 |
| 10 | . 55 | . 95 | 1.05 | 1.20 | 1.50 | 1.75 | 2.10 | 2.40 |
| 11 | . 55 | 1.00 | 1.10 | 1.30 | 1.60 | 1.90 | 2.25 | 2.60 |
| 12 | . 60 | 1.05 | 1.15 | 1.35 | 1.70 | 2.00 | 2.40 | 2.75 |
| 13 | . 60 | 1.10 | 1.20 | 1.45 | 1.80 | 2.10 | 2.55 | 2.95 |
| 14 | . 65 | 1.15 | 1.30 | 1.50 | 1.90 | 2.25 | 2.70 | 3.10 |
| 15 | . 65 | 1.20 | 1.35 | 1.60 | 2.00 | 2.35 | 2.85 | 3.30 |
| 16 | . 65 | 1.25 | 1.40 | 1.65 | 2.10 | 2.45 | 3.00 | 3.45 |
| 17 | . 70 | 1.30 | 1.45 | 1.75 | 2.20 | 2.60 | 3.15 | 3.65 |
| 18 | . 70 | 1.35 | 1.50 | 1.80 | 2.30 | 2.70 | 3.30 | 3.80 |
| 19 | . 75 | 1.40 | 1.60 | 1.90 | 2.40 | 2.85 | 3.45 | 4.00 |
| 20 | . 75 | 1.40 | 1.65 | 1.95 | 2.50 | 2.95 | 3.60 | 4.15 |
| 50 | 1.30 | 2.60 | 3.05 | 3.90 | 5.05 | 6.25 | 7.80 | 9.15 |

## SPECIAL CLASSES. - DOMESTIC MAIL.

Speclal Deilvery: First Ciass Mall: Each piece under 2 lbs.-30c, over 2 up to $10-45 \mathrm{c}$, 0 ver 10 ibs.-60c. Same for air, incl. alr p.p.
Parcei Post: Up to 2 lbs .-55c; over 2 up to $10-65 \mathrm{c}$; over $10 \mathrm{lbs} .-80 \mathrm{c}$.
Speciai Handling: Parcel Post only: Up to 2 lbs. - 25 c , over 2 ibs. up to $10-35 \mathrm{c}$, over $10 \mathrm{lbs}-50 \mathrm{c}$. (Thls service expedites mail but does not include speclal delivery.)
Registered Mail: Up to $\$ 100-75 c$; over $\$ 100$ up to $\$ 200-\$ 1.00$; over $\$ 200$ up to $\$ 400$ $\$ 1.25$; o ver $\$ 400$ up to $\$ 600-\$ 1.50 ;$ over $\$ 600$ up to $\$ 800$ - $\$ 1.75$; over $\$ 800$ up to $\$ 1000-\$ 2.00$. There are speclal surcharges when declared values exceed indemnitlessee iocal Postmaster about these.
Insured Mali: Third and Fourth Class Oniy: Indemnlty up to \$15-20c; over $\$ 15$ up to $\$ 50-30 \mathrm{c}$; over $\$ 50$ up to $\$ 100-40 \mathrm{c}$; over $\$ 100$ up to $\$ 150-50 \mathrm{c}$; over $\$ 150$ to $\$ 200-60 \mathrm{c}$.
C.O.D.: Indemnitles up to $\$ 10-60 \mathrm{c}$; over $\$ 10$ up to $\$ 25-70 \mathrm{c}$; over $\$ 25$ up to $\$ 50-80 \mathrm{c}$; over $\$ 50$ up to $\$ 100-90 \mathrm{c}$; over $\$ 100$ up to $\$ 200-\$ 1.00$. Registered C.O.D., 60 c fee plus registration fee based on value of artlele.
Money Orders: Limit for each ls $\$ 100$. If amount of money order is from 1c to $\$ 10$ the fee 1 s 25 c , from $\$ 10.01$ to $\$ 50$ the fee is 35 c , from $\$ 50.01$ to $\$ 100$ the fee is 40 c .
Certified Mail: Flrst class only having no value, add 30c to postage plus (a) 10 c for return recelpt showlng to whom and when dellvered: (b) 35 c for whom, when, and address where dellvered; (c) 25 c for request after maillng showlng to whom and when delivered. Obtaln blank coupons from Postmaster.

## POSTAL RATES: International SURFACE RATES

Letters: To Canada and Mexico, 5 c per oz. To all other countrles, 13c for the first oz. and 8c each additlonal oz.
Postcards: To Canada and Mexlco, 4c each; 8c reply-pald. To all other countries, 8c each, 16 c reply-pald. Maximum size $6 \times 41 / 4$ lnches, mlnlmum size $41 / 4 \times 3$ inches.
Printed Matter: In general, to Canada and Mexico, 4c first 2 oz. 2c each additionai oz.; all other, 6c first 2 oz. 4c each additional 2 oz. Books and sheet music, to countries of the Postal Unlon of the Amerlcas and Spain, exc. Spaln and Spanlsh possessions, 3c first 2 oz.; 1c each additlonai 2 oz.; all other (lnc. Spain and poss.) 4c first 2 oz ; $13 / 2 \mathrm{c}$ each additlonal 2 oz. Publlshers' second class, P.U.A.S. countrles, 3 c first 2 oz., 1c each additlonal 2 oz ., all other, 4 c frst 2 oz . $11 / 2 \mathrm{c}$ each additlonal 2 oz .
Samples of Merchandlse: To Canada and Mexlco, 4 c first $2 \mathrm{oz} . ; 2 \mathrm{c}$ each additional oz. Mlnimum charge 10c. All other, 6 c first 2 oz .; 4c each additlonal 2 oz . Minimum charge 13 c .
Matter for the Biind: All countries, domestle rates apply with certain exceptlons.
Small Packets: All countries, 6c each 2 oz. Minlmum charge, 26 c .
Merchandise Packages to Canada: Packages of 8 ounces or less, 10 c for 5 oz ., 12c for $6 \mathrm{oz} ., 14 \mathrm{c}$ for 7 oz . and 16 c for 8 oz .
Registration, Insurance, Return Receipts: For detailed informatlon concerning these servlces, consult your local Postmaster.

## SURFACE PARCEL POST RATES

Zone 1: N. America, C. Amerlca, Caribbean Is. - $\$ 1.00$ first 2 lbs., 30c each additional lb. Zone 2: All other countries - $\$ 1.10$ first $2 \mathrm{lbs} . ; 35 \mathrm{c}$ each additional lb.

## AIR MAIL RATES: Domestic and International

Alr Mall Letters: DOMESTIC: United States, Canada, Mexico, 8c per oz.
INTERN ATION AL: Central America, South America, the Carlbbean islands, Bahamas, Bermuda, and St. Plerre and Mlquelon, 15 cents per HALF oz.; Europe (except Estonla, Latvia, Lithuania, and U.S.S.R.) and Mediterrancan Africa, 20 cents HaLF oz.; other countrles, 25 cents HALF oz.
"Other Artlcles": United States, Canada, 8 c per oz.; Mexlco, Central Amerlca, the Caribbean islands, Bahamas, Bermuda, and St. Plerre and Mlquelon, 40 cents first 2 oz. and 10 cents each additlonal 2 oz. or fraction; South America, Europe, (except Estonia, Latvia, Llthuanla, and U.S.S.R.), and Mediterranean Africa, 50 cents frst 2 ounces and 30 cents each addltlonal 2 oz . or fraction; other countries, 60 cents first $2 \mathrm{oz} ., 30 \mathrm{c}$ each addltionai 2 oz .
Post Cards and Aerogrammes (alr letter sheets): Cards, United States, Canada and Mexico, 6c each (slngle). All other, 13c each (slngle). Aerogrammes, 13 c each.
Alr Parcel Post: For detalled information, consult your local Postmaster.


Poe's portrait engraved by G. Tictze from a daguerreotyre ou'ned by T. J. McKec.

## THE RAVEN

by Edgar Allen Poe

was first published in Graham's Magazine in New York in February 1845. It won lasting fame. In 1884, Harper \& Brothers selected this poem for a Christmas presentation book-illustrated by Gustave Dore. Some of these illustrations appear herewith. The poet's young wife, Virginia, was fading before his eyes when "The Raven" was being written. This may have inspired Poe's theme, "the irretrievable loss of an idolised and beautiful woman" (Lenore). Born in 1809 to a life of almost complete suffering and misery, Poe died in 1849. He was elected to the Hall of Fame in 1910.


Once upon a midnight dreary, while I pondered, weak and weary, Over many a quaint and curious volume of forgotten lore,While I nodded, nearly napping, suddenly there came a tapping, As of some one gently rapping, rapping at my chamber door"' T is some visitor," I muttered, "tapping at my chamber door-

Only this, and nothing more."

Ah, distinctly I remember it was in the bleak December, And each separate dying ember wrought its ghost upon the floor. Eagerly I wished the morrow;-vainly I had sought to borrow From my books surcease of sorrow-sorrow for the lost LenoreFor the rare and radiant maiden whom the angels name Lenore-

Nameless here for evermore.


And the silken sad uncertain rustling of each purple curtain Thrilled me-filled me with fantastic terrors never felt before; So that now, to still the beating of my heart, I stood repeating "' T is some visitor entreating entrance at my chamber doorSome late visitor entreating entrance at my chamber ;-

This it is, and nothing more."


Presently my soul grew stronger ; hesitating then no longer, "Sir," said I, "or Madam, truly your forgiveness I implore; But the fact is I was napping, and so gently you came rapping, And so faintly you came tapping, tapping at my chamber door, That I scarce was sure I heard you"-here I opened wide the door ;Darkness there, and nothing more.

Deep into that darkness peering, long I stood there wondering, fearing, Doubting, dreaming dreams no mortal ever dared to dream before; But the silence was unbroken, and the darkness gave no token, And the only word there spoken was the whispered word, "Lenore!" This I whispered, and an echo murmured back the word, "Lenore!" Merely this and nothing more.

Back into the chamber turning, all my soul within me burning, Soon again I heard a tapping, somewhat louder than before. "Surely," said I, "surely that is something at my window lattice;
Let me see, then, what thereat is, and this mystery explore-
Let my heart be still a moment and this mystery explore; -
' T is the wind and nothing more!"
Open here I flung the shutter, when, with many a flirt and flutter, In there stepped a stately Raven of the saintly days of yore.
Not the least obeisance made he; not a minute stopped or stayed he;
But with mien of lord or lady, perched above my chamber door-
Perched upon a bust of Pallas just above my chamber door-
Perched, and sat, and nothing more:
Then this ebony bird beguiling my sad fancy into smiling,
By the grave and stern decorum of the countenance it wore, "Though thy crest be shorn and shaven, thou," I said, "art sure no craven,
Ghastly grim and ancient Raven wandering from the Nightly shore,Tell me what thy lordly name is on the Night's Plutonian shore!"

Quoth the Raven, "Nevermore."
Much I marvelled this ungainly fowl to hear discourse so plainly,
Though its answer little meaning-little relevancy bore;
For we cannot help agreeing that no living human being
Ever yet was blessed with seeing bird above his chamber door-
Bird or beast upon the sculptured bust above his chamber door,
With such name as "Nevermore."
But the Raven, sitting lonely on the placid bust, spoke only That one word, as if his soul in that one word he did outpour. Nothing further then he uttered-not a feather then he flutteredTill I scarcely more than muttered, "Other friends have flown beforeOn the morrow he will leave me, as my hopes have flown before."

Then the bird said, "Nevermore."
Startled at the stillness broken by reply so aptly spoken,
"Doubtless," said I, "what it utters is its only stock and store,
Caught from some unhappy master whom unmerciful Disaster
Followed fast and followed faster till his songs one burden bore-
Till the dirges of his Hope that melancholy burden bore
Of 'Never-nevermore.'"
But the Raven still beguiling all my sad soul into smiling,
Straight I wheeled a cushioned seat in front of bird and bust and door ;
Then, upon the velvet sinking, I betook myself to linking Fancy upon fancy, thinking what this ominous bird of yore-
What this grim, ungainly, ghastly, gaunt and ominous bird of yore
Meant in croaking "Nevermore."


This I sat engaged in guessing, but no syllable expressing To the fowl whose fiery eyes now burned into my bosom's core; This and more I sat divining, with my head at ease reclining On the cushion's velvet lining that the lamplight gloated o'er, But whose velvet violet lining with the lamplight gloating o'er She shall press, ah, nevermore!

Then, methought, the air grew denser, perfumed from an unseen censer Swung by seraphim whose foot-falls tinkled on the tufted floor. "Wretch," I cried, "Thy God hath lent thee-by these angels he hath sent thee
Respite-respite and nepenthe from thy memories of Lenore! Quaff, oh quaff this kind nepenthe, and forget this lost Lenore!"

Quoth the Raven, "Nevermore."

"Prophet!" said I, "thing of evil !-prophet still, if bird or devil !Whether Tempter sent, or whether tempest tossed thee here ashore, Desolate yet all undaunted, on this desert land enchantedOn this home by Horror haunted-tell me truly, I imploreIs there-is there balm in Gilead?-tell me-tell me, I implore!"

Quoth the Raven, "Nevermore."
"Prophet!' said I, "thing of evil—prophet still, if bird or devil! By that Heaven that bends above us-by that God we both adoreTell this soul with sorrow laden if, within the distant Aidenn, It shall clasp a sainted maiden whom the angels name LenoreClasp a rare and radiant maiden whom the angels name Lenore." Quoth the Raven, "Nevermore."

"Be that word our sign of parting, bird or fiend!"
I shrieked, upstarting -
"Get thee back into the tempest and the Night's Plutonian shore! Leave no black plume as a token of that lie thy soul hath spoken! Leave my loneliness unbroken!-quit the bust above my door! Take thy beak from out my heart, and take thy form from off my door!" Quoth the Raven, "Nevermore."


And the Raven, never flitting, still is sitting, still is sitting On the pallid bust of Pallas just above my chamber door ; And his eyes have all the seeming of a demon's that is dreaming, And the lamplight o'er him streaming throws his shadow on the floor; And my soul from out that shadow that lies floating on the floor.


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## WEDDING GIFT'S

Anniversaries and types of gifts that mark their observance are listed below. The first is a traditional list recommended by social authorities. The second list was adopted in 1948 by the Jewelry Industry Council in cooperation with the Retail Jewelers of America, Inc., and the National Wholesale Jewelers.

| TRADITIONAL-LIST |  | JEWELERS-LIST |  |
| :---: | :---: | :---: | :---: |
| YEAR |  | YEAR |  |
| 1st | Paper | 1st | Clocks |
| 2nd | Cotton | 2nd | China |
| 3rd | Leather | 3 rd | Crystal, Glass |
| 4th | . Fruit and Flowers, Silk | 4th | Electrical Gifts |
| 5th | . ............ Wooden | 5th | Silverware |
| 6th | .. Sugar and Candy, Iron | 7th | Desk and Pen and Pencil Sets |
| 7th | ...... Woolen or Copper | 8th | Linens, Laces |
| 8th | ... Bronze or Copper | 9th | Leather |
| 9th | . . Willow or Pottery | 10th | Diamond Jewelry |
| 10th | Tin or Aluminum | 11th | Fashion Jewelry and Accessories |
| 11th | .... Steel | 12th | Pearls or Colored Gems |
| 12th | . .... Silk or Linen | $\begin{aligned} & \text { 13th } \\ & \text { 14th } \end{aligned}$ | Textiles and Furs |
| 14th | ... Ivory | 15th | ... Watches |
| 15th | Crystal | 16th | Silver Holloware |
| 20th | China | 17th | Furniture |
| 25th | Silver | 18th | Porcelain |
| 30th | Pearl | 19th | Bronze |
| 35th | Coral | 20th | um |
| 40th | Ruby | 30th | Diamond |
| 45th | Sapphire | 35th | ... Jade |
| 50th | Golden | 40th | Ruby |
| 55th | Emerald | 45th | Sapphire |
| 60th | Diamond | 55th | Emerald |
| 75th | Diamond | 60th | Diamond Jubilee |

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SHEPHERD'S BAROMETERS Continued from page 10

You may sometimes see two clouds, one to the left, another to the right, which denotes a sudden shower.

When clouds float in a serene sky, you may expect winds, and if they rise from the south, depend on rain: and if you see them driving at sunset. come from what quarter they will, depend on a tempest approaching. Clonds that have a dusky hue, and move slowly, are laden with hail: if they have a blue cast, with large hail: if yellow, small.

The faster it rains, the sooner it will be orer, and sudden rains never last long. But when the air grows thick, and the sun, moon and stars shine dim. then it is likely to rain six hours successively.

When it rains an hour or two before sun-rising. it generally clears before noon, and continues so the whole day: but if the rain set in an hour or two after sunrising. it generally rains all day, unless the rainbow appears a little before the rain begins and then it seldom lasts long.

When October and Norember are warm and rains, January and February are frosty and cold; but if October and November be snow and frost, then January and February are open and mild.

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[^3]
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Always fond of animals, he interfered personally in a number of cases for them long before his retirement. In fact, in 1864 he drew a will giving a good part of his property to circulate "information calculated to prevent cruelty to animals."

In 1868 , in a race over rough roads between Brighton and Worcester, two horses were driven to death. Appalled, Mr. Angell appealed to his friends, to prominent citizens, and to Boston newspapers, to end this sort of cruelty for once and for all.

From the response he was able to found (and was granted a charter on March 28, 1868) the Massachusetts Society for the Prevention of Cruelty to Animals. Ten rears later he started that Society's publication, Our Dumb Animals.

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President Andrew Jackson established a precedent in these United States by endorsing the public documents of which he approved with the symbol letters "O.K." Seha Smith of Maine (also known as Major Jack Downing) jokingly referred to this endorsement as an ignorant spelling error, on the part of the President, of "all correct" (oll korrect). Seba had a point, as President Jackson was not exactly a man of letters. Howerer, Jackson was more right than Smith.
Jackson, a General before he was President, borrowed this exIression from the Choctaw Indians. In the language of the Choctaws there is no verb "to be.", As a substitute for this "to be" the Choctaws ended every assertion with an emphatic "OKEH."
For example, the Euglish sentence, "The Choctaw Indian is a grod fellow" would be in Choctaw: Hattak uppeh hoomah chahtah achookmah okeh. (Man body red Choctaw good is correct.) This "okeli" is the Choctaw verb of assertion "It is so"-"It is all risht" - ete.
Jackson adopted this symbol at an early age. As an attorney, at age 23 . in sumner Countr, Tennessee, he is said to have written in his own hand the following court record :
"Octoher 6. 1790, Andrew Jackson. Esq.. proved a bill of sale from Hugh McGary to Gasper Mansker for a negro man, which was O.K."

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## MYSTERIOUS EVENT, 1912

My father lost two fingers in a wood-sawing accident in 1897. He kept the severed fingers in a small bottle of alcohol, because lie wanted to have them buried with him. He kept the bottle on a cellar window sill. The window was screened with a clump of lilac brush. People seldom went into that part of the cellar.

During the summer of 1912, I threw a stone and broke a corner of this window's pane. Since my mother had not yet heard about the traumas, the complexes, or the thwarted egos that a solid smack on the seat of the pants conld create, I neglecter to mention the broken window.

As cold weather set in my father began complaining that his removed fingers were cold and nothing he conld do would relieve them. My mother tried in vain to convince him that it was impossible for fingers in a 15 -year pickle of alcohol to feel anything. He continued to complain and she continued to poohpooh the whole idea.

One cold day she went into the back cellar. Feeling a draft of icy air, she investigated and discovered the broken window. The hole was directly behind the bottle of fingers.

Without saying anything to anyone, she took the fingers upstairs and put them in a burean drawer in a warm bedroom. My father never mentioned cold fingers again. A few days later she sent the hired man to replace the pane of glass, so my father had no idea that the fingers had been moved.

Years later she told us about the incident.
My father died in 1936. As we left the house to go to the funeral, my brother-in-law asked us which one had given the fingers to the undertaker. Not one of us had thought of them. Bill dashed back in the house, got the fingers, and surreptitiously dropped them into the casket as he walked past it for the last time.

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    (A). State has drunken driving test law. (B). State does not. (C). Law with imp. cons. prov. (D). Same but refusal doesn't auth. license susp.
    (a) Under 18 must have consent of par or guard; (b) Jr. p'mt 16; (c) 14-16 need accompaniment by lic. op.; (d) Instruction p'mt 151/2; (e) Provisional license to 21 ; (f) $16-18$ app. must have completed driver course; (g) Jr. p'mt 14; (h) Learner's p'mt 15; (i) Under 20 need par./guard consent; ( $j$ ) Jr. P'mt 15; ( $k$ ) Under 21 need par./guard consent \& proof of fin. responsibility;
     consent of par./guard.; (o) 16 for agric. pursuits; (p) Exc. some cities; (q) Provisional lic. 16-18; (r) $151 / 2$ if drive course comp.; (s) Under 21 birth certif. or par. sig. req.; ( t ) Learner's permit not req.; (u) Jr. permit 13-15.
    $\dagger$ Plus various adj. *Seat belts req.

[^3]:    Tortured 9 Years by 2 CORNS andaWART
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